

# Rhodora

JOURNAL OF THE  
NEW ENGLAND BOTANICAL CLUB

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Conducted and published for the Club, by

MERRITT LYNDON FERNALD, Editor-in-Chief

CHARLES ALFRED WEATHERBY

ALBERT FREDERICK HILL

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} Associate Editors

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Vol. 47.

December, 1945.

No. 564.

CONTENTS:

Comparison of the Toxicity of <i>Notholaena sinuata</i> and <i>N. sinuata</i> , var. <i>cochisensis</i> . <i>Frank P. Mathews</i> . . . . .	393
Handy Guide to Aquatic and Marsh Vegetation (Review). <i>M. L. F.</i> . . . . .	395
Notes on Compositae of the Northeastern United States. II. <i>Heliantheae</i> and <i>Helenieae</i> . <i>Arthur Cronquist</i> . . . . .	396
<i>Campanula rapunculoides</i> in Indiana. <i>Edwin D. Hull</i> . . . . .	404
"Ia." sometimes stands for Indiana. <i>M. L. Fernald</i> . . . . .	404
<i>Betula papyrifera</i> , var. <i>commutata</i> in western Maine. <i>R. C. Bean</i> . . . . .	405
Errata. . . . .	406
Index to Volume 47. . . . .	407

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The New England Botanical Club, Inc.

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Dr. A. F. Hill, 8 W. King St., Lancaster, Pa., or, preferably, Botanical Museum, Oxford St., Cambridge 38, Mass.

Entered as second-class matter March 9, 1929, at the post office at Lancaster, Pa., under the Act of March 3, 1879.

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VOLUME 47

1945

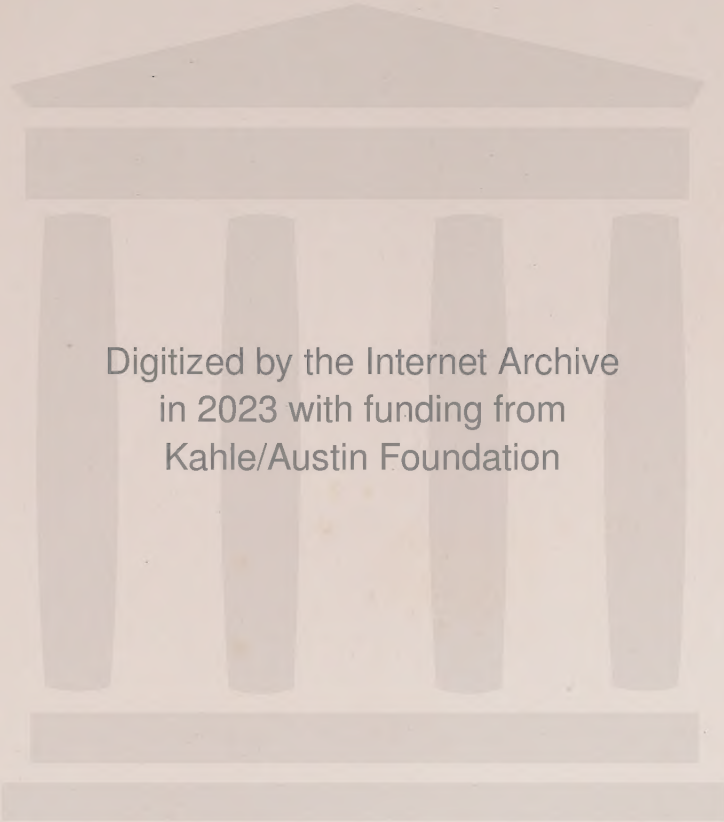
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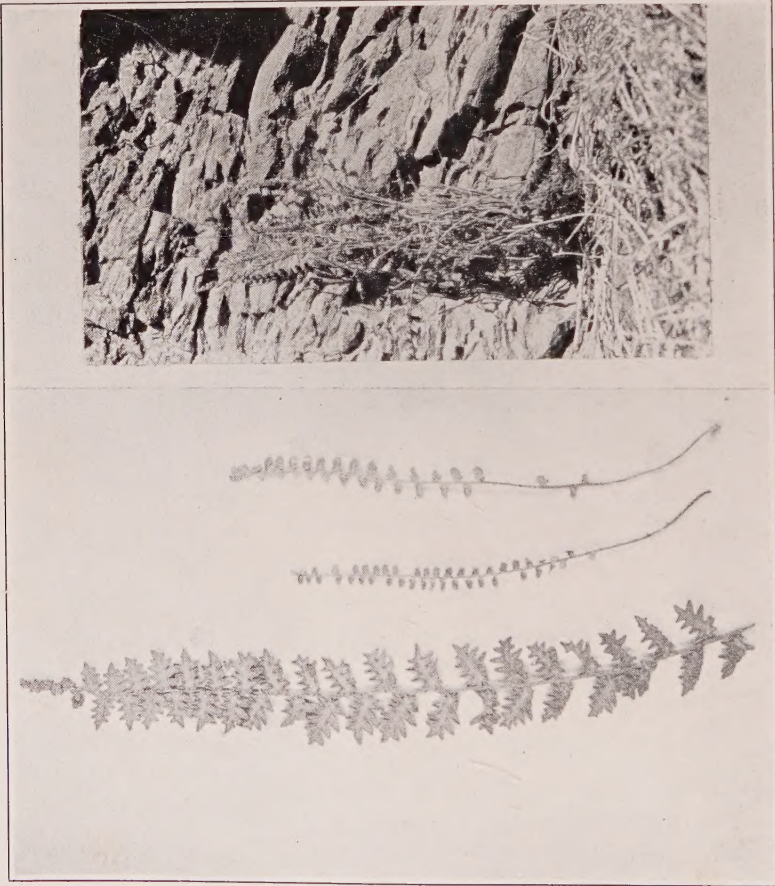


FIG. 2. *N. SINUATA* growing at the base of a rocky ledge

FIG. 1. Three fronds, one large, *NOTHOLAENA SINUATA*; two small, *N. SINUATA*, var. *COCHISENSIS*

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## A COMPARISON OF THE TOXICITY OF NOTHOLAENA SINUATA AND N. SINUATA VAR. COCHISENSIS\*

FRANK P. MATHEWS

DATA on the toxicity of a fern for cattle, sheep, and goats were presented in a previous publication under the title of *Notholaena sinuata*, var. *crenata* (Texas Agricultural Experiment Station Bulletin No. 611, 1942). Quite recently it was called to our attention that the nomenclature employed in that publication was erroneous and that the correct designation for the plant should have been *N. sinuata*, var. *cochisensis*. Therefore, the correct nomenclature is employed in this publication.

Both the species and the variety are common plants in the Trans-Pecos area of Texas, but as a rule they do not occur with equal abundance in the same locality. On the limestone hills and mountains of this area the variety is the more abundant of the two plants, while on the Davis Mountains, which are of igneous rock formation, the opposite condition prevails. Proof of the toxicity of the variety determined the cause of serious sheep losses in many limestone areas but left the status of the species in doubt. Information concerning the toxicity of the species was desired in view of the fact that there has been a gradual extension of the sheep industry into the Davis Mountains, where this plant is often found in considerable abundance.

\* Approved for publication as Technical Contribution no. 906 from the Texas Agricultural Experiment Station by C. H. McDowell, Acting Director, and G. B. Winstead, Director of Information and College Publication. Prepared in cooperation with the United States Department of Agriculture, Bureau of Animal Industry, Agricultural Research Administration, Washington, D. C.

For exact information a comparison of the toxicity of the two plants growing in the same soil formation was desired. With this in view a place was selected in the Davis Mountains near Alpine, where both plants could be found in sufficient quantities to feed to experimental animals. This locality consisted of but a few acres with uniform soil conditions throughout, thus eliminating the factor of different soil formations which must be considered in an experiment of this nature. For the past four years both plants have been gathered in this locality and fed to both sheep and goats in both green and dry state. The results of the feeding tests are summarized in the accompanying table.

THE RESULTS OF FEEDING FERNS TO SHEEP AND GOATS

No.	Animal weight lbs.	Total lbs. fed	Per cent body wt.	Days fed	Results
N. SINUATA (Lag. ex Sw.) Kaulf.					
S163	70	6.3	9.0	9	No ill effects
S169	55	4.5	8.1	6	No ill effects
S170	65	6.4	9.8	8	No ill effects
S139	70	8.4	12.0	8	No ill effects
S142	73	4.8	6.5	8	No ill effects
S169	55	7.0	12.7	7	No ill effects
S176	83	8.3	10.0	6	No ill effects
G92	70	5.6	8.0	8	No ill effects
G2879	50	6.0	12.0	6	No ill effects
N. SINUATA var. COCHISENSIS (Goodding) Weath.					
S170	65	1.8	2.7	3	Marked toxic effects
S142	73	0.6	0.82	2	Marked toxic effects
S169	55	0.9	1.63	3	Marked toxic effects
S176	85	1.5	1.78	3	Marked toxic effects
G2879	50	1.5	3.0	3	Marked toxic effects

A total of seven sheep and two goats were fed *N. sinuata* for periods of 6 to 9 days. The total amounts of the plant fed during these periods varied from 6.5 to 12.7 per cent of the body-weights of the animals. No evidence of toxic effects were observed. On the other hand the variety *cochisensis* produced marked toxic effects in four of these animals with the largest dose equivalent to 3 per cent and the smallest 0.82 per cent of the body-weight, after a feeding period of but 2 to 3 days. The largest dose was probably in excess of the minimum amount which would have been required to produce toxic effects as numerous feeding tests with the variety have shown that one per cent of the body-weight constitutes a toxic dose for both



sheep and goats. The plan adopted was to feed the species to two animals and the variety to a third animal at the same time. The feeding of the latter plant was discontinued as soon as toxic effects appeared but the feeding of the species was continued until comparatively large amounts had been administered. Since no evidence of ill effects could be detected as a result of feeding the species, part of the animals which received this plant were later fed the variety in order to test the susceptibility of these animals, a procedure that was not required from past experience, as we have never found a sheep or goat which is resistant to the toxic principle in var. *cochisensis*. The results of the experimental feeding are in accord with limited field observations which have disclosed no reason for suspecting *N. sinuata* of being poisonous for livestock.

In view of the fact that the two plants occur in the same soil formation, that one is toxic and the other is not, that the two plants can be readily differentiated, the present classification is certainly inadequate. The gulf between these two plants should provide sufficient reason for classifying var. *cochisensis* as a species rather than a variety.

LOCO WEED LABORATORY, TEXAS AGRICULTURAL EXPERIMENT  
STATION, A. and M. College of Texas, Alpine, Texas.

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A HANDY GUIDE TO AQUATIC AND MARSH VEGETATION.—A number of sumptuously illustrated and extensive volumes on aquatic and marsh plants have recently been published. These hardly demand comment here. A more modest study, with every indication of care in its preparation and up-to-date understanding of the plants is the pamphlet by Moyle and Hotchkiss on such plants of Minnesota.<sup>1</sup> As said, this study shows every indication that the authors have taken pains to check on the latest studies of the plants they discuss; only in two or three cases have they missed recent revisions. Their keys are clear and interesting, the drawings simple and readily recognizable, the text instructive and authoritative. The state of Minnesota is to be congratulated upon the production of so unpretentious and accurate a bulletin.—M. L. F.

<sup>1</sup> MOYLE, JOHN B., AND NEIL HOTCHKISS. Aquatic and Marsh Vegetation of Minnesota and its Value to Waterfowl. Minn. Dept. Conservation, Technical Bull. no. 1. 122 pp., many illustrations, keys, etc. 1945.

NOTES ON THE COMPOSITAE OF THE NORTH-  
EASTERN UNITED STATES. II. HELIANTHEAE  
AND HELENIEAE

ARTHUR CRONQUIST

The first paper of this series appeared in RHODORA 47: 182-184. 1945.

AMBROSIA TRIFIDA L. var. **trifida**, nom. nov. *A. trifida* L. Sp. Pl. 987. 1753, sens. strict.

BIDENS VULGATA Greene var. **vulgata**, nom. nov. *B. vulgata* Greene, Pitt. 4: 72. 1899, sens. strict.

The North American species of *Coreopsis* with yellow rays, greatly reduced upper leaves, and fimbriate or pectinately toothed achenial wings were treated by Asa Gray as two species, *C. gladiata* Walt., with alternate, elongate, and relatively broad leaves, and *C. angustifolia* Ait., with mostly opposite, shorter, and relatively narrow leaves. Some other names which have been applied to plants of this group are *C. linifolia* Nutt., *C. longifolia* Small, *C. falcata* Boynton, *C. oniscicarpa* Fern., and *C. oniscicarpa* var. *simulans* Fern. In general these plants may be sorted into the groups made out by Gray, but there are so many intermediates that it seems unwise to maintain them as distinct species. There has been some doubt as to the identity of *C. angustifolia*, Sherff (Field Mus. Pub. Bot. 11: 407. 1936) considering it to have narrow but elongate and alternate leaves. Nuttall's name *C. linifolia* has been taken up by Sherff and others for the plant with small and narrow opposite leaves. The only varietal name thus far used in the group is *C. oniscicarpa* var. *simulans*, applied to a plant with broad opposite leaves, thus squarely between the two main intraspecific groups. Just as a binomial applied to an intraspecific hybrid need not be used for either of the parents, so, I believe, the var. *simulans* need not be taken up for either of the two varieties between which it stands. Plants of this alliance, as I understand them, may be treated as follows:

COREOPSIS GLADIATA Walt. var. **gladiata**, nom. nov. *C. gladiata* Walt. Fl. Carol. 215. 1788, sens. strict. Leaves all or nearly all alternate, the lower ones greatly elongate, mostly 1-3.5 cm. wide; stem mostly terete.

COREOPSIS GLADIATA Walt. var. **linifolia** (Nutt.) comb. nov. *C. linifolia* Nutt. Journ. Acad. Philad. 7: 75. 1834. Leaves

(or at least the middle and upper ones) mostly or all opposite, the lower ones not greatly elongate, mostly 0.3–1 cm. wide; stem tending to be quadrangular.

The rays of var. *gladiata* average a little longer than those of var. *linifolia*, as noted by Gray, but the difference is entirely inconstant and not at all to be depended on. The differences which have been noted by various students in the size and shape of the involueral bracts, and size of the achenes and their wings, seem to me too variable to be of much assistance. No difference in the range of the two varieties can be discerned from our specimens and the previous treatments.

COREOPSIS LANCEOLATA L. var. **lanceolata**, nom. nov. *C. lanceolata* L. Sp. Pl. 908. 1753, sens. strict.

COREOPSIS MAJOR Walt. var. **major**, nom. nov. *C. major* Walt. Fl. Carol. 214. 1788, sens. strict.

*Echinacea laevigata* (Boynton & Beadle) Blake is a rare plant that differs from *E. purpurea* in being glabrous throughout. Its range is almost entirely included within that of *E. purpurea*, but is much more restricted. *E. purpurea* ordinarily has both the stem and the leaves conspicuously hirsute, but individuals with the stem essentially glabrous are not uncommon. A specimen in the herbarium of the New York Botanical Garden (*Murrill s. n.*, Lynchburg, Va.), annotated *E. laevigata* by Sharp, has the upper surface of the leaves short-hirsute, but is otherwise essentially glabrous. In the absence of any other distinguishing feature, *E. laevigata* can scarcely stand as a species.

ECHINACEA PURPUREA Moench var. **purpurea**, nom. nov. *E. purpurea* Moench, Meth. Pl. 591. 1794, sens. strict.

ECHINACEA PURPUREA Moench var. **laevigata** (Boynton & Beadle), comb. nov. *Brauneria laevigata* Boynton & Beadle in Small, Fl. S. E. U. S. 1261. 1903.

*Echinacea atrorubens* Nutt., described from Arkansas, is represented in the herbarium of the New York Botanical Garden by specimens from Oklahoma and Texas. A tracing of part of the type collection, with detailed drawings of certain parts, is also on deposit. *E. paradoxa* (Norton) Britton & Brown is represented by several specimens from Missouri and a few from Oklahoma and Texas, and specimens from these states only are cited by Sharp (Ann. Mo. Bot. Gard. 22: 95. 1935). The ranges of the two species, although not identical, are seen to cover much of



the same territory. E. J. Palmer pointed out in 1936 (RHODORA 38: 197-199) that the two species are very much alike except for the color of the ligules, these being purple in *E. atrorubens*, and yellow in *E. paradoxa*. The two other minor differences which he suggested, the sometimes longer ligules of *E. atrorubens*, and the sometimes wider leaves of *E. paradoxa*, nearly vanish when our specimens are examined. In the absence of any other distinguishing feature, it seems unwise to maintain the two species as distinct.

ECHINACEA ATRORUBENS Nutt. var. **atrorubens**, nom. nov. *E. atrorubens* Nutt. Trans. Am. Phil. Soc. n. ser. 7: 354. 1840, sens. strict.

ECHINACEA ATRORUBENS Nutt. var. **paradoxa** (Norton), comb. nov. *Brauneria paradoxa* Norton, Trans. Acad. Sci. St. Louis 12: 40. 1902.

It may be noted that *E. atrorubens* has nearly from the first been confused with a southeastern species of *Rudbeckia*. A full and apparently correct discussion was published in 1901 by Boynton & Beadle (Bilt. Bot. Stud. 1: 11-12), but as late as 1935 Sharp excluded it from *Echinacea* with only the following comment: "Small in 'Flora of the Southeastern United States' . . . included six species, four of which are retained in this monograph, one reduced to a variety, and the sixth being excluded." (Ann. Mo. Bot. Gard. 22: 85. 1935.)

Dr. Fernald, following Exell (Cat. Vasc. Pl. S. Tome 225. 1944), has recently maintained (RHODORA 47: 196-7. 1945) that the name *Eclipta alba* (L.) Hassk. must be replaced by *Eclipta prostrata* (L.) L. Linnaeus, in the Species Plantarum, proposed among others two species of *Verbesina*, *V. alba* and *V. prostrata*. Later (Mant. 286. 1771) he transferred both these species to *Eclipta*, but substituted the epithet *erecta* for *alba*, thus coining the illegitimate name *E. erecta*, a nomenclatural synonym of *Verbesina alba*. Later (in 1848) Hasskarl published the combination *Eclipta alba*, based on *Verbesina alba* L., and indicated that *E. prostrata* might or might not be sufficiently distinct to warrant recognition.

Fernald says "Since *Verbesina alba* L. and *V. prostrata* L. are considered conspecific and are of even date, the first of them taken up must stand. This is *E. prostrata* (L.) L. (1771)". The pertinent statement in Article 56 of the Rules is as follows: "If the



names or epithets are of the same date, the author who unites the groups has the right of choosing one of them. The author who first adopts one of them, definitely treating another as a synonym or referring it to a subordinate group, must be followed." Note that the two species were not combined by Linnaeus in the Mantissa. The fact that *prostrata* was the first legitimate epithet to be used in *Eclipta* has no bearing on the matter; the Kew Rule has been repudiated by the International Code. The two epithets, *alba* and *prostrata*, are still of the same date; therefore the first author to unite them definitely under one name or the other must be followed. Hasskarl's treatment, in which he indicated that *E. prostrata* might or might not be distinct from *E. alba*, is not sufficiently definite to fulfill the requirement of Article 56 in setting the precedent. The first definite use of one name to cover both species, so far as I am aware, is that of Miquel, in the Fl. Ind. Bat. 2: 65. 1856<sup>1</sup>, where *E. alba* is used and *E. prostrata* relegated to varietal status. This usage, with *E. prostrata* as a variety or synonym of *E. alba*, was adopted successively in Oliver's Flora of Tropical Africa, Hooker's Flora of British India, Martius' Flora Brasiliensis, and Gray's Synoptical Flora of North America, and is in general use today. Unless and until it can be shown that, prior to 1856, some author definitely united *E. prostrata* and *E. alba*, accepting the former epithet and relegating the latter to intraspecific status or synonymy, the name *E. alba* must stand as the proper one.

HELIANTHUS ATRORUBENS L. var. **atrorubens**, nom. nov. *H. atrorubens* L. Sp. Pl. 906. 1753, sens. strict.

HELIANTHUS OCCIDENTALIS Riddell var. **occidentalis**, nom. nov. *H. occidentalis* Riddell, Suppl. Cat. Ohio Pl. 13. 1836, sens. strict.

HELIANTHUS TUBEROSUS L. var. **tuberosus**, nom. nov. *H. tuberosus* L. Sp. Pl. 905, 1753, sens. strict.

PARTHENIUM INTEGRIFOLIUM L. var. **integrifolium**, nom. nov. *P. integrifolium* L. Sp. Pl. 988, 1753, sens. strict.

PARTHENIUM INTEGRIFOLIUM L. var. **auriculatum** (Britton) Cornelius in herb., comb. nov. *P. auriculatum* Britton, Ill. Fl. 3: 521. 1898.

Specimens in the herbarium of the New York Botanical Garden bear Miss Cornelius' label with the heretofore unpub-

<sup>1</sup> I have had the assistance of Dr. M. L. Fernald and Mr. C. A. Weatherby in arriving at this conclusion.

lished combination given above. Since her monograph of the genus *Parthenium* was completed more than 10 years ago, it seems unlikely that publication is now contemplated.

*Polymnia Uvedalia* L. var. *floridana* Blake (RHODORA 19: 48. 1917) and var. *densipilis* Blake (loc. cit.), both differing from var. *genuina* Blake in having the peduncles spreading-hairy, with few or obscure glands, are now known to be confluent in range, and are distinguished only by the most tenuous of characters. It seems proper to treat them both under the name *P. Uvedalia* L. var. *densipilis* Blake.

A considerable number of specific and varietal names has been proposed for the Rudbeckias in our area having the leaves entire or merely toothed, the receptacular bracts glabrous or ciliate, the style-appendages short, and the pappus evident. Among these names are *R. fulgida*, *R. spathulata*, *R. speciosa*, *R. Sullivantii*, *R. palustris*, *R. missouriensis*, *R. umbrosa*, and *R. Deamii*. While plants of this group show a great deal of variation in size and shape of the leaves, amount and orientation of pubescence, and length of rays, the variation seems to be essentially continuous. The oldest name, *R. fulgida* Ait., must therefore stand for the entire group. Four varieties, showing considerable intergradation, may be recognized in our range.

RUDBECKIA FULGIDA Ait. var. **Sullivantii** (Boynton & Beadle), comb. nov. *R. Sullivantii* Boynton & Beadle, Bilt. Bot. Stud. 1: 15. 1901. *R. speciosa* var. *Sullivantii* Robinson, RHODORA 10: 68. 1908. *R. speciosa* Wenderoth, Ind. Sem. Hort. Marb. 1828. Rays mostly 2.5–4 cm. long; leaves usually sharply toothed, commonly but not always relatively broad and only sparsely or moderately pubescent; involucre bracts mostly glabrous or strigose. Mostly in moist places; Mich. to Mo. and W. Va., and perhaps southward.

RUDBECKIA FULGIDA Ait. var. **umbrosa** (Boynton & Beadle), comb. nov. *R. umbrosa* Boynton & Beadle, Bilt. Bot. Stud. 1: 16. 1901. Rays mostly 1–2.5 cm. long; leaves not very sharply toothed, the cauline ones mostly ovate or broader and abruptly contracted to the wingless or narrowly winged petioles; herbage mostly only sparsely hairy; involucre mostly glabrous or strigose. Moist woodlands; Ky. to Tenn. and Ga.

RUDBECKIA FULGIDA Ait. var. **fulgida**, nom. nov. *R. fulgida* Ait. Hort. Kew. 3: 251. 1789, sens. strict. Rays mostly 1–2.5 cm. long, leaves mostly denticulate or subentire, the cauline mostly narrower than ovate and sessile or merely narrowed to

winged petioles or petioliform bases, nearly always at least some of them over 2 cm. wide; herbage usually only sparsely or moderately pubescent; involueral bracts mostly glabrous or strigose. Mostly in woodlands, but sometimes in drier or boggy places; Pa. to Ohio, Ind., Mo., and southward.

*RUDBECKIA FULGIDA* Ait. var. **missouriensis** (Engelm.), comb. nov. *R. missouriensis* Engelm. ex Boynton & Beadle, Bilt. Bot. Stud. 1: 17. 1901. Rays mostly 1–2.5 cm. long; leaves denticulate or subentire, narrow, even the basal ones rarely over 2 cm. wide; involueral bracts mostly spreading-hirsute; herbage densely spreading-hirsute. Mostly in dry open places; Mo. to Tex.

*RUDBECKIA LACINIATA* L. var. **laciniata**, nom. nov. *R. laciniata* L. Sp. Pl. 906. 1753, sens. strict.

*RUDBECKIA TRILOBA* L. var. **triloba**, nom. nov. *R. triloba* L. Sp. Pl. 907. 1753, sens. strict.

*Rudbeckia alismaefolia* T. & G. apparently differs from *R. grandiflora* Gmel. only in being less pubescent and in having usually more obtuse leaves. The two are habitally very much alike, and intermediates may be found. The necessary combinations follow.

*RUDBECKIA GRANDIFLORA* Gmel. var. **grandiflora**, nom. nov. *R. grandiflora* Gmel. ex DC. Prodr. 5: 556. 1836, sens. strict.

*RUDBECKIA GRANDIFLORA* Gmel. var. **alismaefolia** (T. & G.), comb. nov. *R. alismaefolia* T. & G. Fl. N. Am. 2: 310. 1841.

*SILPHIUM INTEGRIFOLIUM* Michx. var. **integrifolium**, nom. nov. *S. integrifolium* Michx. Fl. Bor. Am. 2: 146. 1803, sens. strict.

*SILPHIUM TRIFOLIATUM* L. var. **trifoliatum**, nom. nov. *S. trifoliatum* L. Sp. Pl. 920. 1753, sens. strict.

The genus *Verbesina* of Linnaeus included plants now referred to several distinct genera, and there has been some question to which of these the name should be applied. According to the list of proposed type species of Linnaean genera, as printed in the currently available edition of the International Rules, *V. alata* should be accepted as the type. This is in accordance with the treatments of Bentham, Hoffman, and Gray, and may well be adhered to. In the Genera Plantarum, Bentham separated *Actinomeris* Nutt., with 9 species, from *Verbesina* on the basis of its neutral rather than pistillate rays, noting that in habit and other features the two groups were very similar. It is now well known that several species of *Verbesina* may either lack or possess the style, however. Hoffman, and most American botanists,

have maintained *Actinomeris* (or one of its synonyms, such as *Ridan*) for two species with squarrosely spreading achenes and relatively few and soon deflexed involucre bracts. The type species of *Verbesina*, however, frequently has distinctly squarrose-spreading achenes, and the difference in the involucre is neither very great nor sharply defined. In view of the general habitual similarity of the groups, their admittedly close relationship, and the absence of any well-marked differentiating character, it seems pointless to maintain the separation. *Actinomeris* Nutt. should be considered an integral part of *Verbesina* L. No new combinations are required. It may be noted that the combination *V. alternifolia* (L.) Britt., which appeared as a nomen nudum in Bull. Torrey Bot. Club 20: 485. 1893, was validated by Mohr in Contr. U. S. Nat. Herb. 6: 804. 1901.

The determination of species of *Xanthium* has become a formidable task, undertaken by many botanists only when it becomes unavoidable, and then with serious misgivings. More than 20 species are reputed to occur in North America. I am convinced that the only proper way out of the difficulty is that suggested by Wiegand in the Flora of the Cayuga Lake Basin. ("Several years ago I undertook a revision of the American *Xanthiums*, making use of the material in the Gray Herbarium. After a prolonged but unsuccessful effort to prepare a satisfactory treatment, the problem was laid aside. I am now greatly in doubt as to the existence of more than one real species in the group represented by *X. chinense* Mill., *X. pennsylvanicum* Wallr., *X. italicum* Mor., and other related forms. The foliage in these forms is practically identical, and the only differences of any moment are in the burs, which are indeed highly variable. Extreme forms of burs, however, are often found in the same colony, as though sporadically produced. A large suite of specimens is almost sure to show a nearly or quite unbroken series through the various forms. In every attempt to segregate the burs into species, so many transitional specimens have been found as to do unwarranted violence to any species concept. It is probably wise to treat all North American *Xanthiums* as one species except *X. spinosum* L. and possibly *X. strumarium* L. and *X. echinatum* Murr. *X. strumarium*, however, is scarcely distinct, and with more study may also be included. *X. echinatum* may be a real species, as it has a distinct coastal range, and seems



to behave as though genetically distinct . . .") I am completely in agreement with Wiegand's observations, except that *X. strumarium* sens. strict. seems no more than varietally distinct from our plants, and that I am quite unable to see any sort of taxonomic unit in *X. echinatum*. Our plants, as I understand them, may be treated as follows:

*XANTHIUM STRUMARIUM* L. sens. strict. Fruit straight-beaked, small, less than 2 cm. long, yellow-green, puberulent but not hirsute or markedly glandular. Common in Europe; also in Calif. and reputedly in Mass.

*XANTHIUM STRUMARIUM* L. var. **glabratum** (DC.), comb. nov. *X. macrocarpum* var. *glabratum* DC. Prodr. 5: 523. 1836. Fruits with more or less incurved beaks, usually small, seldom over 2 cm. long, usually brownish or yellowish-brown, atomiferous-glandular or slightly glandular-puberulent to subglabrous between the prickles, not hirsute. Sometimes closely resembling the preceding, sometimes passing into the following. Occurs throughout our range, but not so common as the next.

*XANTHIUM STRUMARIUM* L. var. **CANADENSE** (Mill.) T. & G. Fl. N. Am. 2: 294. 1841. *X. canadense* Mill. Gard. Dict. ed. 8. 1768. Fruits with evidently incurved beaks, usually large, commonly 2-3.5 cm. long, occasionally larger or smaller, generally brown or yellowish-brown, the lower part of the prickles conspicuously spreading-hirsute with viscid hairs, the surface between the prickles often stipitate-glandular. Occurs throughout our range.

Although both species of *Xanthium* have now become cosmopolitan weeds, and *X. strumarium* was well established in Europe four hundred years ago (according to Hegi), it seems probable that they originated in the new world. Except for a few species of *Ambrosia*, the subtribe *Ambrosinae* is otherwise exclusively American.

I am fully in agreement with Asa Gray that the plant treated in recent manuals as *Actinea herbacea* Greene is no more than varietally distinct from *A. acaulis* (Pursh) Spreng., but the proper varietal combination under *Actinea* has not yet been made.

*ACTINEA ACAULIS* (Pursh) Spreng. var. **glabra** (A. Gray), comb. nov. *Actinella scaposa* var. *glabra* A. Gray, Man. ed. 5. 263. 1867. *Actinella acaulis* var. *glabra* A. Gray, Syn. Fl. 2 (1): 345. 1884.

*HELENIUM AUTUMNALE* L. var. **autumnale**, nom. nov. *H. autumnale* L. Sp. Pl. 886. 1753, sens. strict.

CAMPANULA RAPUNCULOIDES IN INDIANA.—The 7th Edition of "Gray's Manual" gives the range of this plant as far west as Ohio. Deam's "Flora of Indiana" records it from Steuben Co., which has Ohio as its eastern boundary, and also from Wells Co. in the eastern part of the state. Deam also records the essentially glabrous variety *ucranica* from Lake Co., remote from the range of the species.

June 30, 1942, I found a small patch of what seems to me the species itself at Hobart, Lake Co., in waste ground along a road. The plants are much roughened, especially on leaves and calyx lobes, with small hairs, in many cases reduced to little more than papillae. June 21, 1945, I again visited this colony, and found it much increased, and the plants larger, due to the copious rainfall during the spring months. Pubescence, however, seemed to be about the same. The flowers are a clear lilac, although they turn blue in drying.

Specimens have been sent to the Gray Herbarium.—EDWIN D. HULL, Gary, Indiana.

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"IA." SOMETIMES STANDS FOR INDIANA.—In RHODORA, xlvii. 175 (1945) I referred to a sheet of specimens of typical *Scutellaria nervosa* as bearing the annotation "Knobs. Ia. Mohr lg. 1854" and suggested the possibility of some error in the data, since no such plant is known from Iowa, but is what "one expects from the Knobs of Kentucky and Tennessee". Dr. Roland M. Harper, in a letter written June 23, points out that in this case "Ia." unquestionably stands for Indiana. In his very detailed *Biographical Sketch of Dr. Charles Mohr*, Bull. Torr. Bot. Cl. xxviii. 599-604 (1901), Dr. Eugene A. Smith stated that Mohr arrived at Cincinnati in December, 1850, and "The next two years were spent upon a farm in Indiana . . . Finally . . . he went to Louisville" until the climate forced him to go farther south. As Dr. Harper says, "Clarke Co., Indiana has plenty of knobs"; he further calls my attention to the publication of *Gerardia Skinneriana* Wood, Class-Bk., ed. 2, 408 (1847), a species described from "Barrens, Ia.!", and named for an Indiana botanist: "I detected this delicate species in July, 1846, in Greene Co., Ia., on land belonging to Dr. A. G. Skinner." Deam, Fl. Ind. 853, speaks of "the type locality in Greene County"; while Pennell, Scroph. E. Temp. N. Am. 468, cites the type as marked by Wood as from "Indiana, legit ipse". The case is clear, then, that "Ia." once stood for Indiana, now

generally abbreviated "Ind.", while "Ia." now stands for "Iowa". One is reminded of the policy of the old lady in the autobiographical story of early Indiana, popular during my boyhood, *The Hoosier-Schoolmaster*: "'Git a plenty while you're a gittin' says I". Turning to Lippincott's Gazetteer of 1856 with the hope of finding Indiana abbreviated "Ia.", my eye is caught by "INDIANAPOLIS, a post-village of . . . Iowa, . . . N. E. of Oskaloosa"!—M. L. FERNALD.

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BETULA PAPIRIFERA, var. COMMUTATA IN WESTERN MAINE.—While botanizing along the Sunday River beyond Ketchum in Riley, Oxford County, Maine, on August 16, 1945, I found a birch which, because of the red-brown color of the bark, seemed unusual. When the revision of the white birches by Prof. Fernald appeared in the October RHODORA, I immediately tried to place the birch. The range, "woodlands near the coast", did not seem to fit western Oxford County but Prof. Fernald has kindly confirmed the specimen as *Betula papyrifera* Marsh., var. *commutata* (Regel) Fernald. This seems worth recording as it extends the range of this variety much farther inland.—R. C. BEAN, Wakefield, Mass.

Volume 47, no. 563, including pages 333-392 and plates 986-989, was issued 15 November, 1945.

## ERRATA

- No. 553, Contents, lines 6 and 7; omit.  
Page 3, line 34; *for have read has*.  
Plate 841, in caption; *for flowing read flowering*.  
Page 15, line 3; *for ATHENS read AIKEN*.  
Page 15, line 46; *for Stephenson read Stevenson*.  
Page 27, last line; *for W. F. A. read W. E. A.*  
Page 36, line 17; *for CHARLESTON read CHARLTON*.  
Page 65, line 4; *for Grant read Boone*.  
Page 82, line 42; *for  $\beta$ . dentatus read  $\beta$ . \* dentatus*.  
Page 101, line 31; *for densipila read densipilis*.  
Page 135, lines 28 and 43; *for Reckinger read Rechinger*.  
Page 136, lines 6 and 39; *for Reckinger read Rechinger*.  
Page 136, line 26; *for stated read started*.  
Page 139, line 2; *for vii. read xii*.  
Page 149, line 8; *for 275 read 276*.  
Page 149, line 11; *for (Raf.) Chapm. read Chapm.*  
Page 162, last line; *for densipila read densipilis*.  
Page 196, line 15; *for DENSIPILA read DENSIPILIS*.  
Page 253, line 24; *for Kokoma read Kokomo*.  
Page 259, page-heading; *for Hardy,—Filago arvensis in North America read Fernald,—Injury to Herbarium-Specimens*.  
No. 562, Contents, line 9; *for Hallichiana read Wallichianus*.  
Page 332, line 13, *for WALLICHIANA read WALLICHIANUS*.



## INDEX TO VOLUME 47

New scientific names are printed in full-face type

- Abies concolor*, 186; *Douglasii*, 316; *Menziesii*, 317; *Mertensiana*, 317  
*Acalypha*, 207; *caroliniana*, 217; *gracilens*, 207, var. *fraseri*, 207; *ostryaefolia*, 217  
*Acanthaceae*, 100, 261, 262; An untenable Generic Name in, 261; tribe *Ruellieae*, 262  
*Acer*, 144; *barbatum*, 156–160, The identity of Michaux's, 156, f. **floridanum**, 160, var. *floridanum*, 160, var. **Longii**, 160, f. **platylobum**, 160; *dasycarpum*, 159; *eriocarpum*, 157; *floridanum*, 96, 156–160, var. *Longii*, 96, 160, f. *platylobum*, 160; *floridanum*, f. *villipes*, 160, var. *villipes*, 160; *grandidentatum*, 156, 157; *leucoderme*, 157; *macrophyllum*, 317; *montanum*, 157; *Negundo*, 157; *nigrum*, 156–158; *pennsylvanicum*, 157, 217; *platanoides*, 158; *rubrum*, 157–159, var. *Drummondii*, 217, var. *tridens*, 217, var. *trilobum*, 217; *saccharinum*, 157–159, var. *floridanum*, 160; *saccharophorum*, 157, 158; *saccharum*, 156–159, var. *Schneekii*, 157; *spicatum*, 159; *tomentosum*, 157  
*Achillea millefolium*, 91  
*Acorus*, 385  
*Acotyledons*, 384  
*Acrostichum alpinum*, 146; *hyperboreum*, 146; *lanuginosum*, 122  
*Actaea racemosa*, 374  
*Actinea*, 403; *acaulis*, 403, var. **glabra**, 403; *herbacea*, 403  
*Actinella acaulis*, var. *glabra*, 403; *scaposa*, var. *glabra*, 403  
*Actinomeris*, 401, 402  
*Adventive in Quebec*, *Chrysanthemum uliginosum*, 389  
*Aegilops*, 280  
*Aesculus*, 97  
*Agaricus*, 386  
*Agastache*, 176; *nepetoides*, 176  
*Agave*, 290  
*Aggregatae*, 384, 386  
*Agropyron pauciflorum*, 208  
*Agrostis antedecens*, 210; *canina*, 43; *clandestina*, 198; *hyemalis*, 210, 211; *perennans*, 43, var. *aestivalis*, f. *atherophora*, 43; *perennans*, f. *chaetophora*, 43; *racemosa*, 209; *scabra*, 210, 211  
*Aira nitida*, 198; *pallens*, 198  
*Alaskan Mountain-Ash*, *Sorbus Andersoni*, a New Name for an, 220  
*Alder*, 103; *American*, 338; *Black*, 337; *Common*, 341; *Glaucous*, 350; *European White*, 335; *Gray*, 337; *Sea-side*, 341; *Silver-leaved*, 340; *Speckled*, 349, 350; *Swamp*, 103, 333, 334, 337; *White*, 337, 349  
*Alder Tree*, *Notch'd-leaved*, 342  
*Alethris*, 282  
*Aletris farinosa*, 374  
*Algae*, 386; *marine*, 64; of the *Monterey Peninsula (Review)*, *Marine*, 63  
*Alisma Plantago*, 343, var. *Americana*, 343; *subulata*, 343  
*Alnus acuminata*, 339; *americana*, 350; *autumnalis*, 346; *crispa*, 350, 357, f. **stragula**, 144; *glauca*, 336, 337, 341, 343, 344, 349–351, *stipulis lanceolatis*, 343; *glutinosa*, 214, 336, var. *autumnalis*, 346, *lusus rugosa*, 340, *a. serrulata*, 355, *lusus a. genuina*, 355, *lusus b. obtusifolia*, 355, *lusus c. rugosa*, 346; *hybrida*, 340, 346; *incana*, 333–337, 340, 344, 346, 347, 349–351, 360, pl. 976, *Eastern North American Representatives of*, 333–361, pls. 976–989, var. *americana*, 347, *β. americana*, 350, 352, 354, var. *glauca*, 347, 350, 352, *β. glauca*, 352; var. *glauca*, f. *tomophylla*, 353, var. *hypochlora*, 339, 340, 346, 348, 358, var. *tomophylla*, 353, *α. vulgaris*, 350; *latifolia*, 346; *macrophylla*, 346; *maritima*, 337, 341; *noveboracensis*, 344, 348, 358, 361; *rubra*, 341, 355; *rugosa*, 333, 337, 339, 340, 342–345, 347, 349, 350, 355, 358, 360, var. **americana**, 345, 350, 353, 354, 361, pls. 980, 981, f. **hypomallaca**, 345, 353, 361, pl. 982, f. **tomophylla**, 345, 353, 361, pl. 982, var. *obtusifolia*, 355, var. *serrulata*, 355, var. *typica*, 345, 354, 360, 361, pls. 977–979, f.

- Emersoniana**, 345, 347, 349, 350, 361, **pl. 979**; serrulata, 333, 336, 337, 340-346, 349, 350, 354, 355, 360, var. *genuina*, 357-359,  $\alpha$ . *genuina*, 355,  $\beta$ . *macrophylla*, 346, var. *obtusifolia*, 357, 361,  $\delta$ . *obtusifolia*, 355, *pumila*, 355,  $\beta$ . *rugosa*, 346, 348, var. *subelliptica*, 355, 358-361, **pl. 986**, f. *emarginata*, 355, 359, 361, **pl. 987**, f. *mollescens*, 355, 359, 361, **pl. 988**, f. *nanella*, 355, 360, 361, **pl. 989**, var. *vulgaris*, 354, 355, 358, 360, 361, pls. 983, 984, f. *novboracensis*, 354, 358, 361, **pl. 985**; undulata, 350; viridis, var. *repens*, 144
- Aloe**, 290
- Alstroemeria**, 385
- Amaranthus albus**, 139, 140, var. **pubescens**, 140; blitoides, 139, 140; Blitum, 139; floribus lateralibus congestis, etc., 139; graecizans, 139, 140, **pl. 887**, var. *pubescens*, 140; graecus, 140; *pubescens*, 140
- Amaryllis**, 385
- Ambrosia**, 403, trifida, 396, var. **trifida**, 396
- Amelanchier**, 144
- Amentaceae**, 384, 386
- American Alder**, 338
- Ammophila breviligulata**, 334
- Amorpha croceolanata**, 215; fruticosa, 99, 101, 156, var. *croceolanata*, 215, var. *emarginata*, 215 var. *tennesseensis*, 215; nitens, 215
- Andromeda**, 170, 290; axillaris, 169-171,  $\beta$ ., 169, 171, var. *longifolia*, 170; calyculata,  $\beta$ . *latifolia*, 390, 391; nana, 391; Catesbaei, 170, 171; spinulosa, 170, 171
- Andropogon**, 108, 213; Gerardi, 213; furcatus, 213
- Anemone quinquefolia**, var. *interior*, 214
- Angiosperm**, 207
- Animadversons on Artemisia**, Transfers in and, 247-256
- Anonymos caroliniensis**, 31, 71, 77, 85
- Antennaria**, 182, of the "Manual Range", Key to, 221-235, 239-247, pls. 912-958; albicans, 228, 232, 244, **pl. 918**; ambigens, 239; appendiculata, 224, 229, 232, 245, **pl. 921**; aprica, 230, 234, 246, pls. 938, 939; arnoglossa, 183, 240, var. *ambigens*, 183, 239; Bayardi, 227, 232; Brainerdii, 231, 240, 247, pls. 952, 953; brunnescens, 227, 232; calophylla, 240; campestris, 229, 233, 245, **pl. 928**; cana, 227, 232; canadensis, 184, 229, 232, 233, 244, 245, pls. 922, 923, var. *Randii*, 184, 232, var. *spathulata*, 232; carpatica, 231,  $\gamma$ . *pulcherrima*, 231; columnaris, 227, 231, 243; confusa, 228, 232; decipiens, 240; eucosma, 226, 231, 244, **pl. 912**; fallax, 183, 231, 233, 239, 244, 246, pls. 945, 946, var. *calophylla*, 240, 246, pls. 947, 948; Farwellii, 230, 239; Foggii, 227, 232, 243; gaspensis, 224, 226, 229, 233; grandis, 234; monocephala, 241; munda, 231, 233, 239, 244; neglecta, 183, 184, 222, 224-226, 229, 233, 241, 243, 245, pls. 924-926, var. *argillicola*, 184, 234, var. *attenuata*, 184, 234, var. **gaspensis**, 184, 233, var. **neglecta**, 184, 233, var. **Randii**, 184, 232; neglecta, f. *simplex*, 233, 241, 245, **pl. 927**, var. *subcorymbosa*, 235; neodioica, 184, 230, 233, 234, var. *argillicola*, 234, var. *attenuata*, 184, 234, 245, **pl. 924**, var. *subcorymbosa*, 235; neodioica, 184, 230, 233, 234, var. *argillicola*, 234, var. *attenuata*, 184, 234, 245, **pl. 933**, var. *chlorophylla*, 234, 245, **pl. 935**, var. *gaspensis*, 184, 233, var. *grandis*, 234, 246, **pl. 936**, var. *interjecta*, 234, 245, **pl. 934**, var. *petaloidea*, 234, var. *rupicola*, 233, var. *typica*, 234, 245, pls. 931, 932; occidentalis, 239; Parlinii, 183, 231, 233, 240, 244, 246, pls. 949, 950, var. *ambigens*, 239, var. *arnoglossa*, 183, 240, 247, **pl. 951**; Peasei, 224, 228, 232, 244, **pl. 915**; petaloidea, 230, 233-235, 244, 246, pls. 940, 941, var. *modesta*, 235, var. *scariosa*, 235, 246, **pl. 942**, var. *subcorymbosa*, 235, 246, pls. 943, 944; plantaginea, 240; plantaginifolia, 182, 183, 224, 231, 233, 240, 241, 243, 247, pls. 954, 955, var. **ambigens**, 183, 239, var. **arnoglossa**, 183, 240,  $\beta$ . *monocephala*, 241, 247, var. *petiolata*, 240, 247, **pl. 956**, var. **plantaginifolia**, 183; pulcherrima, 226, 231; rupicola, 230, 233, 245, pls. 929, 930; simplex, 233; solitaria, 183, 224, 231, 241, 243, 247, pls. 957, 958; spathulata, 228, 232, 244, **pl. 920**, var. *continentis*, 232; straminea,

- 228, 232, 244, pl. 914; subviscosa, 224-226, 228, 232, 243, 244, pls. 916, 917; vexillifera, 224, 227, 232, 243, 244, pl. 913; virginica, 184, 222, 230, 234, 242, 243, 246, pl. 937, var. argillicola, 184, 234, 246, pl. 937; Wiegandii, 228, 232, 244, pl. 919
- Antennarias, 183, 184
- Anulocaulis, 329, from southwestern Texas and adjacent New Mexico, New Species of, 329; **gyssogenus**, 330; leiosolenus, 330, 331, var. lasianthus, 330, var. **typicus**, 330
- Apios americana, var. turrigera, 216
- Apocynum, 369; maius Syriacum, 369; minus Canadense, 369; Syriaci, 369
- Apterocaryon Michauxii, 326
- Aquatic and Marsh Vegetation (Review), Handy Guide to, 395
- Arabis Holboellii, 225; integrifolia, 203
- Arbor virginiana, citreae, etc., 141; virginiana, pishaminis, 141
- Arbor-vitae, 219
- Archichlamydeae, 209
- Arctostaphylos, 177; Uva-ursi, 177
- Arenaria marcescens, 320
- Argemone intermedia, 214
- Argentinian Species, Perezia aletes an, 47
- Arisaema triphyllum, 363
- Arisarum triphyllum altissimum, etc., 363
- Aristolochia Serpentina, 374
- Artemisia, Transfers in and Animadversions on, 247-256; albula, 255, 256; atomifera, 254; Brittonii, 248; Carruthii, 255; cuneata, 248; discolor, 256; Douglassiana, 250, 251; dracunculina, 247; dracunculoides, 247, 248, var. dracunculina, 247, var. glauca, 248; Dracunculus, subsp. dracunculina, 247; glauca, 247, 248, var. **dracunculina**, 247; gnaphalodes, 251, 253; Herriottii, 250-252; indica, var. mexicana, 248; kansana, 255; longifolia, 251-253; ludoviciana, 251, 252, 256, var. **americana**, 248, 252, 254, var. **Brittonii**, 248, 252, 254, var. **cuneata**, 248, var. gnaphalodes, 252, 253, 256, var. latifolia, 252, 253, var. **mexicana**, 248, 252, 254, 255, var. **pabularis**, 248, 252-254; mexicana, 248; Michauxiana, 256; pabularis, 248; Purshiana, var. latifolia, 253; rhizomata, var. pabularis, 248; Silver-king, 255; serrata, 250-252; Tilesii, 254; vulgaris, 248-251, var. americana, 248, 254, 255, var. glabra, 250, subsp. gnaphalodes, 251, 253, 255; vulgaris gnaphalodes, 254, subsp. heterophylla, 250, var. latiloba, 250, subsp. ludoviciana, 251, 252, subsp. mexicana, 248, subsp. Tilesii, 254, subsp. Wrightii, 255
- Arum caulescens foliis ternatis, 363
- Asarum canadense, 378; europaeum, 378; Lewisii, 93, 102, 133.
- Asbestos-bush, 263
- Asclepias incarnata, 369; Meadii, 205, syrica, 369
- Asparagus, 207
- Asperifoliae, 386
- Asperulae, 385
- Aspidium spinulosum, var. dilatatum, f. anadenium, 260
- Aster, 291; lucidulus, 46
- Astragalus tennesseensis, 216
- Australia, Distichlis spicata in, 148
- Author Citation for Eriogonum hemipterum, 92
- Balsamiflua ilicifolia, 362
- Baptisia, 94; Gibbesii, 94; tinctoria, 94, 156, 215, var. crebra, 94, 215
- Barleria, 386
- Barnyard grass, 212
- Bay, Red, 149
- Bean, R. C., Betula papyrifera, var. commutata in western Maine, 405; Gentiana quinquefolia in Maine, 143
- Beetle, A. A., Distichlis spicata in Australia, 148
- Belamcanda, 207
- Benzoin, 140
- Bergia texana, 217
- Betula, 338, 386, in Eastern North America, Notes on, 303-329, pls. 963-975; sect. Apterocaryon, 327; ser. Albae, 303, 325; ser. Costatae, 326; ser. Humiles, 325, 326; alba, 304, 305, 307-309, 311, 324, var. carpatica, 323, 324, var. cordifolia, 320,  $\beta$ . dalecarlica, 305, var. elobata, 319, var. glutinosa, 318, var. minor, 306, 324; alba, f. occidentalis, 312, subsp. occidentalis, var.  $\beta$ . commutata, 316,  $\beta$ . commutata, 312, 313, 316, var.  $\alpha$ . typica, 316,  $\delta$ . papyrifera, 311,

- subsp. *papyrifera*, *β. cordifolia*, 320, var. *humilis*, 322, 323, 328, *β. humilis*, 306, var. *γ. humilis*, 321, *β. pendula*, 305, 309, var. *populifolia*, 304, subsp. *pubescens*, 309, var. *tortuosa*, 307, 328, pl. 963, subsp. *verrucosa*, 322, a var. *resinifera*, 322, var. *resinifera*, 322, *δ. resinifera*, 322, var. *vulgaris*, 309, *α. vulgaris*, 308; *alaskana*, 321, 322, 328, 329; *Alnus incana*, 338, (*rugosa*), 338, 339, 345; *borealis*, 304, 308, 323–325, 328, 329, pl. 973; *caerulea*, var. *Blanchardi*, 305, var. *grandis*, 305; *× caerulea*, 305; *caerulea-grandis*, 304, 305; *carpatica*, 323; *cordifolia*, 320, 321; *crispa*, 343; *dahurica*, var. *americana*, 306, 307, *β. americana*, 306; *Ermani*, 321; *excelsa*, 324; *fontinalis*, 313–317, 321, 325, var. *Piperi*, 317; *glandulosa*, 224, 306–308, 324, 328; *laciniata*, 305; *lenta*, 326, 329, pl. 974, var. *uber*, 325, 326; *Lyalliana*, 312; *Michauxii*, 326, 327; *microphylla*, 306–308, 317, 323, 325, 328, pl. 963; **minor**, 304, **306–308**, 321, 325, 328, pl. 963; *nana*, 326–329, 378, pl. 975, var. *Michauxii*, 326, *ε. Michauxii*, 326; *nealaskana*, 321; *nigra*, 314, 319; *occidentalis*, 312–317, 321, 322, 325, var. **fecunda**, **317**, 328, **pl. 966**; *odorata*, var. *tortuosa*, 306, 307; *papyracea*, 311, 313, 316, 322, *cordifolia*, 320, a *cordifolia*, 320, *Lyalliana*, 312, var. *minor*, 306, 321, var. *occidentalis*, 312; *papyrifera*, 304, 308, 311–314, 316, 319–321, 328, pl. 964, var. *communis*, f. *cordifolia*, 320, var. **commutata**, 311, **312**, 313, 315–317, 328, 405, pl. 965, in western Maine, 405, var. *cordifolia*, 306, 308, 312, 319, 320, 328, pl. 970; *papyrifera*, f. *coriacea*, 311, 312, var. *elobata*, 312, 319, 320, 328, pl. 969, var. **humilis**, 321, 322, 328, pls. 971, 972, var. *Lyalliana*, 312, 317, var. **macrostachya**, 308, 311, **318–320**, 382, **pl. 968**, f. *longipes*, 311, **319**, 328, **pl. 968**, var. *minor*, 306, 324, var. *nealaskana*, 321, var. *occidentalis*, 312, var. **pensilis**, 311, **318**, 328, **pl. 967**, var. *subcordata*, 320; *pendula*, 304, 305, 309, 321, f. *dalecarlica*, 305; *Piperi*, 317; *populifolia*, 165, 303–305, f. **incisifolia**, **304**, var. *laciniata*, 304, 305; *pubescens*, 305, 308–311; *pumila*, 307, 324, 325, 327, 343, *γ. borealis*, 323, var. *renifolia*, 327; *rugosa*, 339, 340, 342, 345; *serrulata*, 341, 342, 355; **terrae-novae**, **326**, 327, 329, **pl. 975**; *tomentosa*, 308–311; *tortuosa*, 307, pl. 963; **uber**, **325**, 326, 329, pl. 974; *verrucosa*, 305
- Betula-Alnus glauca*, 340, 343; *maritima*, 341; *rubra*, 341, 355
- (Betulaceae), Some North American Corylaceae, I. Notes on *Betula* in Eastern North America, 303–329, pls. 963–975; II. Eastern North American Representatives of *Alnus incana*, 333–361, pls. 976–989
- Bibliography of Canadian Botany (Review), A, 236
- Bicornes, 385
- Bidens*, 290; *vulgata*, 396, var. **vulgata**, **396**
- Bingham's Flora of Oakland County, Michigan (Review), 260
- Birch, 314, 405; Dwarf, 303; White, 303, 405
- Birrell, William, *Thermopsis mollis* in eastern Massachusetts, 91
- Black Alder, 337
- Blackberry, 95, 98
- Blechum, 11; Tweedyi, 11
- Boehmeria, 100
- Boerhaavia *leiosolena*, 329, 330
- Boltonia asteroides*, 389; *caroliniana*, 97, 196
- Borbonia fructu oblongo*, etc., 150
- Botanical Specialties of the Seward Forest and adjacent Areas of Southeastern Virginia, 93–142, 149–182, 191–204, pls. 876–911
- Botany (Review), A Bibliography of Canadian, 236
- Bouteloua breviseta*, 331, *curtipendula*, 208
- Brachiaria, 108
- Brambles, 91
- Brauneria laevigata*, 397; *paradoxa*, 398
- Bromus ciliatus*, var. *intonsus*, 42; *japonicus*, var. *porrectus*, 42
- Broom, Scotch, 335
- Byronia similis floridana*, 301
- Bulbostylis capillaris*, 116
- Bupleurum angulosum*, 378
- Butomus, 385



- Calamagrostis* *Porteri*, 42; *purpurascens*, 225  
*Calamaria*, 385  
*Calamariae*, 385  
*Calla aquatilis* *odore*, etc., 363  
*Callirhoe alcaeoides*, 217  
*Calophanes humistrata*, 82  
*Calotropis procera*, 369  
*Calycanthaceae*, 385  
*Calycanthemae*, 385  
*Camellia sinensis*, 143  
*Campanaceae*, 384, 385  
*Campanula*, 392; from Minnesota, New Form of, 391; *lactescens*, 384; *rapunculoides*, in Indiana, 404, var. *ueranica*, 404; *rotundifolia*, var. *intercedens*, f. **cleistocodona**, 391  
Canada, *Utricularia inflata* var. *minor* in, 235  
Canadian Botany (Review), A Bibliography of, 236  
*Canna angustifolia*, 293; *glauca*, 293; *Indica*, 293  
*Capitatae*, 386  
*Capparis*, 385  
*Cardiospermum*, 217; *Halicacabum*, 209, 217  
*Carduus*, 290; *acanthoides*, 46  
*Carex*, 96, 206, 209, 260, 385; *aenea*, 44; *argyrantha*, 44; *concinna*, 225; *cristatella*, 38, in New Hampshire, 38; *festucacea*, 43; *flaccosperma*, 162; *foenea*, 44; *Geyeri*, 44; *hirsutella*, 96, 117, 127; *hystericina*, 44; *Meadii*, 205; *nardina*, 224; *oxylepis*, 97, 162; *prairea*, 44; *projecta*, 40, Vegetative Reproduction in *Carex tribuloides* and, 39; *rariflora*, 224; *Richii*, 43; *Schweinitzii*, 44; *Sprengelii*, 44, 272; *straminea*, 43; *tribuloides*, 39, 40, and *C. projecta*, Vegetative Reproduction in, 39  
*Carices*, 38, 39  
*Carya alba*, 47; *arkansana*, 214; *Buckleyi*, var. *arkansana*, 214; *glabra*, 46, var. *megacarpa*, 214; *megacarpa*, 214; *ovalis*, var. *hirta*, 46; *ovata*, 47; *pallida*, 47; *Pecan*, 209; *tomentosa*, 47  
*Caryophylleae*, 385  
*Cassia bicapsularis*, 300; *Candolleana*, 300; *fasciculata*, var. *robusta*, 142  
*Cassida foliis Betonicae*, etc., 201; *mariana hyssopifolia*, 202  
*Castanea dentata*, 97, 131; *neglecta*, 97, 131; *pumila*, 97, 131  
*Casuarina*, 386  
*Ceanothus americanus*, 217, var. *Pitcheri*, 217  
*Celtis ilicifolia*, 362  
*Cenchrus*, 385  
*Cephalanthus*, 364; *occidentalis*, 191, var. *pubescens*, 191  
*Cerasi similis arbuscula mariana*, etc., 301  
*Cerastium beeringianum*, 225; *brachypodium*, 214  
*Cerasus Caroliniana*, 301  
*Chamaedaphne calyculata*, 390, var. *angustifolia*, 390, 391, var. **latifolia**, 390, 391, var. *nana*, 391  
*Chamaelirium luteum*, 213  
*Chelidonium*, 385  
*Chestnut*, 287; *Oak*, 365  
*Chloris curtispindula*, 208  
*Choke-Cherry*, 301  
*Chrysanthemum*, 389; *Leucanthemum*, var. *pinnatifidum*, 389; *uliginosum*, 389, adventive in Quebec, 389  
*Chrysogonum*, 364  
*Chrysopogon*, 108  
*Cineraria congesta*, 257; *palustris*, 256  
*Circaea*, 97, 101; *canadensis*, 97, 98, 162, 163, pl. 896, var. **virginiana**, 161-163, pl. 896; *intermedia*, 97  
*Cirsium virginianum*, 103, 197, f. *revolutum*, 103, 197  
*Cissampelos*, 301; *Pareira*, 301  
Citation for *Eriogonum hemipterum*, Author, 92  
*Cladium*, 206  
*Claytonia*, 364; *caroliniana*, 214; *foliis linearibus*, 274  
*Clethra*, 177, 364; *alnifolia*, 177  
*Cnicus*, 320  
*Coadunatae*, 386  
Coastal Plain, Some heretofore unnoticed Plants of the South Carolina, 142  
*Colchicum*, 385  
*Coldenia hispidissima*, 331  
*Columniferae*, 384, 386  
*Commelina*, 117; *crispa*, 213; *diffusa*, 213; *erecta*, var. *angustifolia*, 213, var. *Deamiana*, 213; *hirtella*, 117; *Nashii*, 213; *nudiflora*, 213; *virginica*, 117, 213  
Common Alder, 341  
Comparison of the Toxicity of

- Notholaena sinuata* and *N. sinuata*, var. *cochisensis*, 393  
 Compositae, 101, 182, 222, 384-386, subtribe *Ambrosinae*, 403; of the Northeastern United States. I. *Inuleae*, Notes on, 182; II. *Heliantheae* and *Helenieae*, Notes on, 396  
 Coniferae, 384, 386  
 Contortae, 384, 385  
 Contributions from the Gray Herbarium of Harvard University—No. CLIII, pp. 1-38, 47-63, 69-90, pls. 839-875; No. CLVI, pp. 93-142, 149-182, 191-204, pls. 876-911; No. CLVII, pp. 221-235, 239-257, 265-271, pls. 912-962; No. CLIX, pp. 303-329, 333-361, pls. 963-989  
 Convolvulus, 332, 384; *sepium*, 332; *Wallichianus*, 332, at Swarthmore, Pennsylvania, 332  
 Coral-tree, 381  
 Corallorrhiza *Wisteriana*, 209  
 Coreopsis, 396; *angustifolia*, 396; *falcata*, 396; *gladiata*, 396, var. *gladiata*, 396, 397, var. *linifolia*, 396, 397; *lanceolata*, 397, var. *lanceolata*, 397; *linifolia*, 396; *longifolia*, 396; *major*, 397, var. *major*, 397; *oniscicarpa*, 396, var. *simulans*, 396  
 Coronariae, 385  
 Cornus, 144; *canadensis*, 46; *foemina*, 101, 168; *mas*, 141; *stricta*, 101, 168  
 Corydales, 385  
 Corylaceae, 333; (Betulaceae), Some North American, I. Notes on *Betula* in Eastern North America, 303-329, pls. 963-975; II. Eastern North American Representatives of *Alnus incana*, 333-361, pls. 976-989  
 Corylus, 339  
 Corymbium, 288  
 Crataegus, 209; *aestivalis*, 151; *flava*, 151, 152; *glandulosa*, 152 (Critique), An Incomplete Flora of Illinois, 204  
 Crocus, 385  
 Cronquist, Arthur, Notes on Compositae of the Northeastern United States. I. *Inuleae*, 182; II. *Heliantheae* and *Helenieae*, 396  
 Croton *capitatus*, 209; *texensis*, 216  
 Cryphiacanthus *acaulis*, 10, 11; *angustifolius*, 8-12; *Tweedianus*, 9, 10; *barbadensis*, 24, 27  
 Cucurbitaceae, 386  
 Cunila *mariana*, 374  
 Cupressus, 386  
 Cycas, 386  
 Cymbopogon, 108  
 Cynoctonum *sessilifolium*, 95, 127  
 Cynosurus, 385  
 Cyperaceae, 206, 379, 380  
 Cyperi genus *indianam*, etc., 111, 113  
 Cyperus, 111-113; *caespitosus*, 113; *densicaespitosus*, 113; *elongatus*, 113; *ferax*, 113; *fliculmis*, 198; *hystricinus*, 111, 113; *odoratus*, 113, *panicula sparsa*, etc., 113; **Plukenetii**, 110-113, pl. 877; *polystachyos*, 113; *pseudovegetus*, 110, 113, 213; *pubescens*, 112; *pumilus*, 113; *retrofractus*, 111-113, pl. 878; *rigidulus*, 113; *robustus*, 110, 113; *tenuifolius*, 113; *virens Michx.*, The Identity of, 109, pl. 876; *virens*, 109, 110, 112, 113, 213, pl. 876  
 Cypripedium *Calceolus*, var. *pubescens*, 97, 131  
 Cyrilla *racemiflora*, var. *subglobosa*, 156  
 Daisy, 389; Ox-eye, 389  
 Dalibarda *repens*, 45  
 Dasiola, 106; *Elliottea*, 106, 107  
 Datura, 384, 385; *Stramonium*, 119  
 Dayton, William A., An untenable Generic Name in *Acanthaceae*, 261  
 Decodon *verticillatus*, var. *laevigatus*, 272  
 Deschampsia *atropurpurea*, 224  
 Descriptive Method of Linnaeus, On the, 273-302, 363-388, pls. 990, 991  
 Descurainia *Sophia*, 214  
 Desmodium, 101; *lineatum*, 101, 156; *rotundifolium*, 101  
 Devil's Paint-brush, 242  
 Dewberries, 153  
 Diadelphia, 275  
 Dianthera *ovata*, 209  
 Dianthus, 379; *deltoides*, 214  
 Dichromena, 291  
 Dicliptera, 100; *brachiata*, 100, 181  
 Dieranocarpus *parviflorus*, 331  
 Digitaria, 108  
 Diodia, 364  
 Dioscorea, 301; *Batatas*, 131; *sativa*, 274; *villosa*, 301  
 Dipsacus, 386  
 Dipteracanthus, 32; *ciliatus*, 32, 34,

- 36, 38, 50, 52, 74, *β. dentatus*, 82, *β. hybridus*, 71, *γ. parviflorus*, 2, 86, var. *parviflorus*, 27, 31, 32, 75; *Drummondii*, 56, 57; *hybridus*, 81; *micranthus*, 17-19; *Mitchillianus*, 71, 72, 86; *noctiflorus*, 49, 50, *β. humilis*, 51; *spectabilis*, 11; *strepens*, 14, 52, 58, 60, 82, var. *calycinus*, 14, *γ. Dillenii*, 71, var. *pedunculatus*, 14, 17, var. *strictus*, 14, 17; *strictus*, 14
- Dirca*, 282
- Disperma*, 1, 261, 262; *kilimandscharicum*, 262; *trachyphyllum*, 261-263
- Distichlis*, 148; *distichophylla*, 148; *spicata*, 148, in *Australia*, 148, var. *distichophylla*, 148
- Disynanthus*, 240; *plantagineus*, 240
- Dizygandra noctiflora*, 49; *tubiflora*, 49
- Dock*, *Water*, 133
- Dodartia*, 288
- Dog-fennel*, 102
- Dogwoods*, 91
- Dracontium foliis subrotundis*, 363
- Dryopteris cristata*, 101, 106
- Dumosae*, 386
- Duosperma*, 262, 263; *kilimandscharicum*, 262; *trachyphyllum*, 263**
- Dwarf Birch*, 303
- Dyschoriste*, 262; *oblongifolia*, 60, 63
- Eastern American Luzula*, Notes on, 265-271, pls. 961, 962; *North American Representatives of Alnus incana*, 333-361, pls. 976-989; *United States, Ruellia* in the, 1-38, 47-63, 69-90, pls. 839-875
- Echinacea*, 398; *atrorubens*, 397, 398, var. *atrorubens*, 398, var. *paradoxa*, 398; *laevigata*, 397; *paradoxa*, 397, 398; *purpurea*, 397, var. *laevigata*, 397, var. *purpurea*, 397
- Echinochloa*, 108, 212; *crusgalli*, 212; *microstachya*, 212; *muricata*, 212, var. *microstachya*, 212, var. *occidentalis*, 212; *occidentalis*, 212; *pungens*, 212, var. *microstachya*, 212, var. *occidentalis*, 212
- Echinodorus parvulus*, 210; *tenellus*, 210
- Echinops*, 386
- Eclipta*, 398, 399; *alba*, 196, 398, 399; *erecta*, 196, 398; *prostrata*, 196, 398, 399
- Eleocharis*, 208; *pauciflora*, var. *Fernaldii*, 207; *Wolfii*, 205
- Elephantopus carolinianus*, f. *vestitus*, 100, 191
- Elm*, *Red*, 204; *Slippery*, 132, 204
- Elodes petiolata*, 217
- Elymus striatus*, 122
- Ensatae*, 385
- Epilobium coloratum*, 199
- Equisetum*, 384
- Eragrostis*, 108; *caroliniana*, 198; *Damiensiana*, 108; *multicaulis*, 108; *pectinacea*, 198, 199; *peregrina*, 108; *pilosa*, var. *condensata*, 108, var. *Damiensiana*, 108; *poaeoides*, 42; *spectabilis*, 264
- Erianthus*, 100; *alopecuroides*, 100, 109; *brevibarbis*, 209, 212
- Erica*, 290, 291; *Gnaphalodes*, 377; *Plukenetii*, 291; *spumosa*, 377
- Erigeron*, 291
- Eriocaulon septangulare*, 208
- Eriogonum hemipterum*, 92, *Author Citation for*, 92; *hieracifolium*, var. *hemipterum*, 92
- Eriophorum cyperinum*, 124; "*spicis pendulis*", 295
- Erucastrum gallicum*, 45
- Eryngium*, 104, 105, 384; *Baldwini*, 164-168, pl. 899; *integrifolium*, 166, 167; *prostratum*, 103, 104, 163-168, pls. 897, 898, var. *disjunctum*, 163, 164, 168, pls. 897, 898; *virgatum*, 167
- Erythronium*, 385
- Eupatoria*, 195
- Eupatorium*, 226; *altissimum*, 46; *aromaticum*, 193, 194, var. *lacerum*, 194; *capillifolium*, 102; ***cordigerum*, 192, 193, pl. 908; dubium, 193, f. *elutum*, 195; fistulosum**, 193; *hyssopifolium*, 103, 191; *incarnatum*, 209; *lanceolatum*, 192, pl. 910; *maculatum*, 193, f. ***Faxoni*, 195; perfoliatum**, var. *cuneatum*, 195; *pubescens*, 192-194, pl. 911; *purpureum*, 193; *resinosum*, 195, var. ***kentuckiense*, 195; rotundifolium**, 192, 193, pl. 909, var. *cordigerum*, 192; *rugosum*, 193; *sessilifolium*, 194, var. *Brittonianum*, 194, 195, var. *Vaseyi*, 194, 195; *urticaefolium*, 193; *verbenaefolium*, 192, 193, pl. 910; *verticillatum*, 193
- Euphrasia canadensis*, 39, in *Massachusetts*, 39

- Euphorbia, 290, 368; hypericifolia, 368; maculata, 367, 368; nutans, 368; supina, 368  
 European White Alder, 335  
 Ewan, Joseph, *Juncus Mertensianus* and its austrolimital Segregate *J. Duranii*, 185  
*Fagus grandifolia*, 214, var. *caroliniana*, 214  
 Fernald, M. L., An Incomplete Flora of Illinois (Critique), 204; Botanical Specialties of the Seward Forest and adjacent Areas of Southeastern Virginia, 93-142, 149-182, 191-204, pls. 876-911; *Chamaedaphne calyculata*, var. *latifolia*, 390; Handy Guide to Aquatic and Marsh Vegetation (Review), 395; "Ia." sometimes stands for Indiana, 404; Injury to Herbarium-specimens by extreme Heat, 258; Key to Antennaria of the "Manual Range", 221-235, 239-247, pls. 912-958; Minor Forms and Transfers, 144; Notes on eastern American *Luzula*, 265-271, pls. 961, 962; *Perezia aletes* an Argentinian Species, 47; *Ruellia* in the Eastern United States, 1-38, 47-63, 69-90, pls. 839-875; *Senecio congestus*, 256; *Senecio Smallii*, forma *tristis*, 302; Some North American *Corylaceae* (Betulaceae). I. Notes on *Betula* in Eastern North America, 303-329, pls. 963-975; II. Eastern North American Representatives of *Alnus incana*, 333-361, pls. 976-989; Transfers in and Animadversions on *Artemisia*, 247-256; Woody Plants of Maine (Notice), 143  
*Festuca*, 107; subg. *Vulpia*, 107, 108; *monandra*, 106, 107; *myuros*, 106; *octoflora*, var. *tenella*, 210; *nutans*, 199; *obtusata*, 199; *octoflora*, var. *glaucata*, 107, var. *tenella*, 107; *paradoxa*, 97, 106, 199; *quadriflora*, 106; *saximontana*, 225; *sciurea*, 106; *Shortii*, 97, 199; *tenella*, 107, *β. glauca*, 107  
*Filago arvensis*, 258, in North America, 258  
*Filices*, 384-386  
*Fimbristylis*, 95, 206; *anomala*, 116; *Baldwiniana*, 213; *caroliniana*, 114, 115; *castanea*, 114-116; *Drummondii*, 95, 113-116, 127, *β. major*, 115, *α. minor*, 115; interior, 115, 116; *laxa*, 213; *puberula*, 114; *spadicea*, 114, 116  
*Floerkea proserpinacoides*, 272  
 Flora of Illinois (Critique), An Incomplete, 204; of Oakland County, Michigan (Review), Bingham's, 260  
 Form of *Campanula* from Minnesota, New, 391  
 Forms and Transfers, Minor, 144  
*Fraxinus biltmoreana*, 209; *caroliniana*, var. *pubescens*, 171  
*Fuirena*, 206; *hispida*, 103, 117; *squarrosa*, 103, 117  
*Fumaria*, 385  
 Fumarineae, 385  
 Fungi, 281, 386  
*Gaillardia multiceps*, 331  
*Galium circaeazans*, 140; *palustre*, 390  
*Gaultheria*, 282  
 Generic Name in Acanthaceae, An untenable, 261  
*Gentian*, 143  
*Gentiana*, 290, 378; *quinquefolia*, 143, in Maine, 143  
*Geoprumnon*, 216  
*Geranium*, 219; *nepalense*, 220, var. *Thunbergii*, 219, 220, in Massachusetts, 219; *sibiricum*, 216  
*Gerardia Skinneriana*, 404  
*Geum canadense*, var. *brevipes*, 97, 152; *rivale*, 215  
*Gilibertia*, 289  
*Glabraria geniculata*, 140, 142  
*Gladiolus*, 385  
 Glaucous Alder, 350  
*Glechoma hederacea*, f. *acutiloba*, 176  
*Gleditsia*, 207; *triacanthos*, 207, f. *inermis*, 207  
*Globularia*, 386  
*Gloriosa*, 288  
*Glyceria airoides*, 108; *arkansana*, 210; *borealis*, 42, 45; *Fernaldii*, 42, 45; *pallida*, var. *Fernaldii*, 42; *obtusata*, 237; *striata*, var. *stricta*, 210  
*Gnaphalium*, 241, 258; *dioicum*, *β. plantaginifolium*, 240, 241; *monocephalum*, 241; *plantagineum*, 240; *plantaginifolium*, 183, 240, 241, 247; *stolonibus reptatricibus* etc., 241, 247  
 Goldenrods, 91  
 Goodman, George J., Author Cita-



- tion for *Eriogonum hemipterum*, 92
- Gramineae, 108, 206, 385
- Grass, Barnyard, 212; Yellow-eyed, 206
- Grasses, 206
- Gray Alder, 337
- Gray Herbarium of Harvard University, Contributions from the, —No. CLIII, pp. 1-38, 47-63, 69-90, pls. 839-875; No. CLVI, pp. 93-142, 149-182, 191-204, pls. 876-911; No. CLVII, pp. 221-235, 239-257, 265-271, pls. 912-962; No. CLIX, pp. 303-329, 333-361, pls. 963-989
- Grindelia squarrosa, var. serrulata, 46
- Groh, Herbert, *Linum catharticum* in Ontario, 362
- Gruinales, 385
- Guide to Aquatic and Marsh Vegetation (Review), Handy, 395
- Gymnosperms, 207
- Hairy Variety of Sweet Pignut in New England, 46
- Hamamelis, 363
- Handy Guide to Aquatic and Marsh Vegetation (Review), 395
- Haplopappus divaricatus, 195
- Hardy, George A., *Filago arvensis* in North America, 258
- Harrison, Arthur K., *Euphrasia canadensis* in Massachusetts, 39
- Harvard University, Contributions from the Gray Herbarium of, —No. CLIII, pp. 1-38, 47-63, 69-90, pls. 839-875; No. CLVI, pp. 93-142, 149-182, 191-204, pls. 876-911; No. CLVII, pp. 221-235, 239-257, 265-271, pls. 912-962; No. CLIX, pp. 303-329, 333-361, pls. 963-989.
- Hazel-Alder, 339, 340
- Heat, Injury to Herbarium-Specimens by extreme, 258
- Hederaceae, 386
- Hedysarum violaceum, 301
- Helenieae, Notes on Compositae of the Northeastern United States. II. Heliantheae and, 396
- Helenium autumnale, 403, var. **autumnale**, 403
- Heliantheae and Helenieae, Notes on Compositae of the Northeastern United States. II., 396
- Helianthium parvulum, 210; tenellum, 210
- Helianthus angustifolius, 103, 196; *atrorubens*, 399, var. **atrorubens**, 399; *occidentalis*, 399, var. **occidentalis**, 399; *tuberosus*, 399, var. **tuberosus**, 399
- Heliotropium amplexicaule, 143, 171, 172; *anchusaefolium*, 171; *europaeum*, 171, 172; *indicum*, 172
- Helonias, 282
- Herbarium-Specimens by extreme Heat, Injury to, 258
- Hesperideae, 384, 385
- Heteranthera limosa, 209, 213
- Heteropogon, 108
- Heuchera americana, var. interior, 214; *hispida*, 215; *Richardsonii*, var. *Grayana*, 215
- Hibiscus, 290
- Hickory, Pale, 47; Shagbark, 47
- Hieracium, 183, 242-244; *Pilosella* group, 243; *Gronovii*, 243; *scabrum*, 243; *venosum*, 243
- Hill, Albert F., A Bibliography of Canadian Botany (Review), 236
- Hodgdon, A. R., *Carex cristatella* in New Hampshire, 38
- Holosteum umbellatum, 45
- Hordeum, 280
- Houstonia, 291, 364
- Hudsonia, 207
- Hunnewell, Francis Welles, *Geranium nepalense*, var. *Thunbergii* in Massachusetts, 219
- Hull, Edwin D., *Campanula rapunculoides* in Indiana, 404
- Hunt, Kenneth W., Some heretofore unnoticed Plants of the South Carolina Coastal Plain, 142
- Hyacinths, 379
- Hydrangea, 364
- Hydrocharis, 385
- Hydrocotyle americana, 218
- Hydrophyllum, 288
- Hygrophila, 262; *illinoensis*, 17, 18
- Hyparrhenia, 108
- Hypericum boreale, 217; *cistoides*, 379; *ellipticum*, 217; *gymnanthum*, 45; *petiolatum*, 217; *setosum*, 95, 127; *tubulosum*, var. *Walteri*, 217
- Hypnum, 386
- Hypoxis, 206
- "Ia." sometimes stands for Indiana, 404
- Icosandria, 275
- Identity of *Cyperus virens* Michx., The, 109, pl. 876; of *Juncus*

- tenuis, The, 117-123; of Michaux's *Acer barbatum*, The, 156  
 Ilex, 332; *aculeata cocciglandifera*, 297; *coccifera*, 297; *opaca*, 217  
 Illinois (Critique), An Incomplete Flora of, 204  
 Incomplete Flora of Illinois (Critique), An, 204  
 Indiana, "Ia." sometimes stands for, 404; *Campanula rapunculoides* in, 404  
 Indigenous Variations of *Ulmus americana*, The, 132  
 Injury to Herbarium-Specimens by extreme Heat, 258  
 Inundatae, 385  
 Iresine celosioides, 214; *rhizomatosa*, 214  
 Iris, 385  
 Isolepis, 116; *capillaris*, 116; *Drummondii*, 116  
 Isopappus divaricatus, 195  
 Itea virginica, 301  
 Ixia, 385
- Jack-in-the-pulpit, 363  
 Jones, George Neville, *Sorbus Andersoni*, a new Name for an Alaskan Mountain-Ash, 220  
 Juncaceae, 206, 207, 268  
 Juncoides intermedium, 271; *multiflorum*, var., 265  
 Juncus, 119, 126, 185, 187, 206, 207, 260, 268, 269, 385; § Genuini, 126; ser. *Prophyllati*, 206; *acutiflorus*, 270; *acutus*, 269; *aseptus*, 189-191; *balticus*, var. *littoralis*, 44; *bicornis*, 123; *biglumis*, 269; *brachycephalus*, 127; *brevicaudatus*, 127, 213; *bufonius*, 120; *bulbosus*, 118, 120; *campestris*, 269; *canadensis*, 127-130, Some Varieties and Forms of, 127-131, pls. 881, 882, var. *coarctatus*, 213, var. **euroauster**, 127-129, 131, **pl. 881**, var. *longicaudatus*, 129, var. *longicaudatus*, 129, var. *sparsiflorus*, 128, 129, 131, **pl. 881**, var. **typicus**, 128, **129**, 131, **pl. 882**, f. *apertus*, 128, **129**, 131, **pl. 882**, f. **conglobatus**, 128, **129-131**, **pl. 882**; *capensis*, 268-270; *castaneus*, 224; *columbianus*, 185; *compressus*, 118, 120; *congestus*, 268; *conglomeratus*, 269; *debilis*, 213; *dichotomus*, 96, 118, 119, 121-123, 125, 126, **pl. 879**, var. *platyphyllus*, 96, 124; **Durarii**, 185, **186-188**, 190, *Juncus Mertensianus* and its austrolimal Segregate, 185; *effusus*, 126, 269, var. *solutus*, 208; *erectus*, 268; *filiformis*, 269; *Gerardi*, 118, 120; *germanorum*, 118; *glaucus*, 270; *Griscomi*, 126, A second Station for, 126; *gymnocarpus*, 126; *intermedius*, 268, 271; *liniger*, 268; *Longii*, 96, 127; *macer*, 119, 120, 122, 125, f. *discretiflorus*, 123; *maximus*, 269; *Mertensianus*, 185-191, and its austrolimal Segregate, J. *Durarii*, 185; *multiflorus*, 268-271; *nevadensis*, 185, 187-191; *obtusiflorus*, 270; *parviflorus*, 269; *pilosus*, 269, 378; **platyphyllus**, **124-126**, **pl. 880**; *repens*, 101, 127; *scirpoides*, 96, 127; *setiflorus*, 270; *Smithii*, 126; *spicatus*, 269; *subcaudatus*, 127; *Suksdorfii*, 185; *tenuis*, 117-123, 125, **pl. 879**, f. **discretiflorus**, **123**, var. *platyphyllus*, 124, 125; *trifidus*, 269; *triglumis*, 269; *trigonocarpus*, 127, 128; *vernalis*, 269  
 Jungermannia, 386  
 Juniperus, 144  
 Jussiaea, 237, 239; *grandiflora*, 238; *Michauxiana*, 238; *repens*, 238, var. *glabrescens*, 239, subsp. *hirsuta*, var. *grandiflora*, 238; *uruguayensis*, 238, 239, in Staten Island, New York, 237, var. *genuina*, 238  
 Justicia humilis, 209
- Kalmia, 282, 385  
 Key to Antennaria of the "Manual Range", 221-235, 239-247, pls. 912-958  
 King Devil, 242  
 Kucyniak, James, *Chrysanthemum uliginosum* adventive in Quebec, 389  
 Kyllinga, 113; *caespitosa*, 113; *elongata*, 113; *pumila*, 113; *rigidula*, 113; *tenuifolia*, 113
- Lachnocaulon anceps, 103, 360  
 Lakela, Olga, New Form of *Campanula* from Minnesota, 391  
 Larix, 207  
 Lathyrus, 207; *venosus*, 207, var. *intonsus*, 207  
 Laurus aestivalis, 140-142, 150; *axillaris*, 149, 150; *Benzoin*, 140-142; *Borbonia*, 149, 150; *caroliniana*, 149; *caroliniensis*, 149,

- $\alpha$ . glabra, 149,  $\beta$ . pubescens, 149, foliis, etc., 150; foliis enervibus, 141; foliis lanceolatis, etc., 141, 150; geniculata, 140, 142, 150  
*Lapathum aquaticum*, folio, etc., 134, 135; foliis longis, etc., 134, 135  
*Lechea*, 282; foliis ovati-lanceolatis, etc., 282; major, 282  
*Leptanthus ovalis*, 209, 213  
*Leptochloa attenuata*, 211, 212; filiformis, 211  
*Leptoloma* in New England, 263; cognatum, 263, 264  
*Lespedeza* 45; cuneata, 45; sericea, 45; stipulacea, 45; violacea, 301  
*Leucothoë axillaris*, 169-171, pl. 900, var. **ambigens**, 168-171, pl. 901; *Catesbaei*, 169-171, pl. 902; *platyphylla*, 170, 171  
*Ligusticum canadense*, 162  
*Ligustrum*, 281; *sinense*, 171  
Liliaceae, 206  
*Lilium*, 385  
*Lindera*, 140; *Benzoin*, 141, 142, pl. 889  
Linnaeus, On the Descriptive Method of, 273-302, 363-388, pls. 990, 991  
*Linum*, 385; *catharticum*, 68, 362, in New Brunswick, 68, in Ontario, 362; *floridanum*, 216  
*Lithospermum officinale*, 390  
*Litsea*, 150; **aestivalis**, 140, 142, pl. 888; *geniculata*, 140, 142, 150  
*Lobelia*, 102, 385; *glandulifera*, 102  
*Loblolly Pine*, 102  
*Lolium*, 280  
Lomentaceae, 385  
*Lonchocarpus*, 289, 290  
*Lonicera villosa*, var. *tonsa*, 45  
*Ludwigia*, 105; *glandulosa*, 101, 161; *palustris*, 218, var. *americana*, 218  
*Lupinus perennis*, 215, var. *occidentalis*, 215  
Luridae, 384-386  
*Luzula*, 207, 269; Notes on eastern American, 265-271, pls. 961, 962; *arcuata*, 267; *campestris*, 267, 268, var. *acadiensis*, 267, 271, pl. 962, var. *alpina*, 265, var. *comosa*, 268, var. *frigida*, 265-268, var. *multiflora*, 267; *confusa*, 224; *frigida*, 265; *intermedia*, 271; *multiflora*, 266-268, 271, pl. 962, var. **acadiensis**, 267, pl. 962, var. *congesta*, 268, 271, pl. 961, var. *fusconigra*, 266, 267, 271, pl. 962; *sudetica*, 265, 266, 271, pl. 961, var. **frigida**, 265, 266, 271, pl. 961  
*Lychnis*, 385  
*Lycopodium alpinum*, 224; *clavatum*, 386  
*Lycopus americanus*, var. *Longii*, 103, 180, var. **scabrifolius**, 180  
*Lysimachia hybrida*, 209; *lanceolata*, 171  
*Magnolia*, 284; *glauca*, 259; *virginiana*, 151, 259, var. *australis*, 151  
Maine, *Betula papyrifera* var. *commutata* in western, 405; *Gentiana quinquefolia* in, 143; (Notice), Woody Plants of, 143  
*Malapoenna geniculata*, 140  
*Malaxis brachypoda*, 213  
*Malus angustifolia*, 215  
Manning, Wayne E., Hairy Variety of Sweet Pignut in New England, 46  
"Manual Range", Key to Antennaria of the, 221-235, 239-247, pls. 912-958  
*Marchantia*, 386  
Marine algae, 64; of the Monterey Peninsula (Review), 63  
*Mariscus*, 112; *pubescens*, 112  
Marsh Vegetation (Review), Handy Guide to Aquatic and, 395  
*Martagon*, 385  
*Martynia*, 386  
Massachusetts, *Euphrasia canadensis* in, 39; *Geranium nepalense*, var. *Thunbergii* in, 219; Rediscovery of *Paronychia argyrocoma*, var. *albimontana* at Newburyport, 90; *Thermopsis mollis* in eastern, 91  
Mathews, Frank P., Comparison of the Toxicity of *Notholaena sinuata* and *N. sinuata*, var. *cochisensis*, 393  
*Matteuccia nodulosa*, 124; *pubescens*, 124; *Struthiopteris*, f. *pubescens*, 124, var. *pubescens*, 124  
McGregor, Frank J., Rediscovery of *Paronychia argyrocoma*, var. *albimontana* at Newburyport, Massachusetts, 90  
*Medeola*, 364  
*Melothria*, 364  
*Menispermum canadense*, 140  
*Mentzelia humilis*, 331; *oligosperma*, 217  
*Menyanthes trifoliata*, var. *minor*, 208

- Mertensia maritima*, 259  
*Metachlamydeae*, 209  
 Method of Linnaeus, On the Descriptive, 273-302, 363-388, pls. 990, 991  
 Michigan (Review), Bingham's Flora of Oakland County, 260  
*Microstylis monophyllos*, 213  
*Mimulus moschatus*, 186  
 Minnesota, New Form of *Campanula* from, 391  
 Minor Forms and Transfers, 144  
*Miscellaneae*, 386  
*Mitchella repens*, 262  
 Mockernut, 47  
 Monachino, Joseph, *Jussiaea uruguayensis* in Staten Island, New York, 237  
*Monocotyledoneae*, 209  
*Monocotyledons*, 384  
 Monterey Peninsula (Review), Marine Algae of the, 63  
 Mosses, 281  
*Muhlenbergia*, 209; *curtiseta*, 211; *glabriflora*, 99, 109; *glomerata*, 211; *mexicana*, 213; *racemosa*, 211; *setosa*, 198, 211, var. *cinnoidea*, 211  
*Multisiliquae*, 385  
*Muscae*, 386  
*Musci*, 386  
*Myosotis*, 378  
*Myriophyllum exalbescens*, 218; *spicatum*, 218, var. *exalbescens*, 218  
*Najas gracillima*, 210  
 Name for an Alaskan Mountain-Ash, *Sorbus Andersoni*, a New, 220; in *Acanthaceae*, An untenable Generic, 261  
*Narcissus*, 332  
 Necessary Transfer in *Populus* § Turanga, A, 362  
 Nelson, James C. (with portrait) [sketch of life of], 65  
*Nemopanthus mucronata*, f. **chrysocarpa**, 144  
*Nepeta virginica*, 178  
 New Form of *Campanula* from Minnesota, 391; Name for an Alaskan Mountain-Ash, *Sorbus Andersoni*, a, 220; Species of *Anulocaulis* from southwestern Texas and adjacent New Mexico, 329  
 New Brunswick, *Linum catharticum* in, 68  
 New England, Hairy Variety of Sweet Pignut in, 46; *Leptoloma* in, 263  
 New Hampshire, *Carex cristatella* in, 38  
 New Mexico, New Species of *Anulocaulis* from southwestern Texas and adjacent, 329  
 New York, *Jussiaea uruguayensis* in Staten Island, 237  
 Newburyport, Massachusetts, Rediscovery of *Paronychia argyrocoma*, var. *albimontana* at, 90  
 Ninsi, 386  
 Nipa, 385  
 North America, Notes on *Betula* in Eastern, 303-329, pls. 963-975; So-called *Woodsia alpina* in, 145; *Filago arvensis* in, 258  
 North American Representatives of *Alnus incana*, Eastern, 333-361, pls. 976-989  
 Northeastern United States. I. *Inuleae*, Notes on *Compositae* of the, 182; II. *Heliantheae* and *Helenieae*, Notes on *Compositae* of the, 396  
 Notch'd-leaved Alder Tree, 342  
 Notes on *Betula* in Eastern North America, 303-329, pls. 963-975; on *Compositae* of the Northeastern United States. I. *Inuleae*, 182; II. *Heliantheae* and *Helenieae*, 396; on eastern American *Luzula*, 265-271, pls. 961, 962; on Plants of central Pennsylvania, 41  
*Notholaena sinuata*, 394, 395, and *N. sinuata*, var. *cochisensis*, Comparison of the Toxicity of, 393, var. *cochisensis*, 393-395, Comparison of the Toxicity of *Notholaena sinuata* and, 393, var. *crenata*, 393  
 (Notice), Woody Plants of Maine, 143  
*Nuphar variegatum*, 214  
*Nymphaea*, 385  
 Nyssa, 97, 364; *sylvatica*, var. *biflora*, 168, var. *caroliniana*, 168  
 Oak, 281, 287, 297, 299; Chestnut, 365; Red, 297, 364, 366; Swamp Chestnut, 365  
 Oakland County, Michigan (Review), Bingham's Flora of, 260  
*Obularia*, 264  
*Oldenlandia*, 291  
*Oleraceae*, 385  
*Onoclea nodulosa*, 123, 124; *Stru-*



- thiopteris, f. obtusilobata, 124,  
var. pubescens, 124  
Ontario, *Linum catharticum* in, 362  
Orchideae, 385  
*Osmunda regalis*, 386; virginiana,  
374  
Ostrich Fern, var. pubescens, 124  
Ox-eye Daisy, 389  
*Oxyria digyna*, 224
- Palmae, 384-386  
Palmer, Samuel C., *Convolvulus*  
*Wallichianus* at Swarthmore,  
Pennsylvania, 332  
*Panax*, 386  
*Panicularia rigida*, 210  
*Panicum*, 108, 210; *agrostoides*, var.  
*ramosius*, 109; *capillare*, 264;  
*discolor*, 198; *flexile*, 97; *laxi-*  
*florum*, 211; *Leibergii*, 43; *line-*  
*arifolium*, 211; *lucidum*, 103;  
*pensylvanicum*, 198; *roanokense*,  
109; *Wernerii*, 211; *xalapense*, 211  
*Papaver*, 385  
Papilionaceae, 385  
*Paronychia*, 90; *argyrocoma*, var.  
*albinmontana*, 90, at Newbury-  
port, Massachusetts, Rediscovery  
of, 90  
*Parthenium*, 400; *auriculatum*, 399,  
*integrifolium*, 399, var. **auricula-**  
**tum**, 399, var. **integrifolium**,  
399  
Partridgeberry, 262  
*Paspalum*, 210; *Bushii*, 212; *laeve*,  
212; *longependunculatum*, 212;  
*setaceum*, 212, var. *longepedun-*  
*culatum*, 212  
*Passiflora foetida*, 275; *lutea*, 217,  
var. *glabriflora*, 217  
*Pastinaca sativa*, 390  
*Pattersonia caroliniensis*, 71  
Peck, M. E., James C. Nelson  
(with portrait), 65  
*Pedaliu*m, 385  
*Pedicularis sylvatica*, 267  
*Peloria*, 291  
Pennsylvania, *Convolvulus Wal-*  
*lichianus* at Swarthmore, 332;  
Notes on Plants of central, 41  
*Penthoru*m, 364  
*Perezia aletes*, 47, an Argentinian  
Species, 47; *sonchifolia*, 47  
*Persea Borbonia*, 149, 150, f. **pu-**  
**bescens**, 149; *caroliniensis*, 149,  
 $\alpha$ , 149,  $\alpha$ . *glabriuscula*, 149, var.  
*palustris*, 149,  $\beta$ . *pubescens*, 149;  
*palustris*, 149, 150, f. *laevifolia*,  
149; *pubescens*, 149, 150
- Personatae, 384-386  
*Peziza*, 386  
*Phacelia dubia*, var. *interior*, 171;  
*fallax*, 171  
*Phaseolus helvolus*, 216  
*Phleum pratense*, var. *nodosum*, 109  
*Phyllis*, 386  
*Picea rubens*, 144; *rubra*, 144  
*Pignut* in New England, Hairy  
Variety of Sweet, 46; Sweet, 47  
*Pilea*, 100  
*Pine*, 281; *Pitch*, 334, 335; *Scotch*,  
335  
*Pinus*, 144; *contorta Murreyana*,  
186; *rigida*, 334  
*Piperitae*, 385  
*Pitch Pine*, 334, 335  
*Plantago asiatica*, 294; *foliis ovatis*,  
etc., 293; *major*, 293; *media*, 294;  
*virginica*, 294  
Plants of central Pennsylvania,  
Notes on, 41; of Maine (Notice),  
Woody, 143; of the South Caro-  
lina Coastal Plain, Some hereto-  
fore unnoticed, 142  
*Pluchea purpurascens*, 184, var.  
**purpurascens**, 184  
*Poa*, 383; *caroliniana*, 198, 199;  
*saluensis*, 45; *Wolffii*, 205  
*Podophyllum*, 385  
*Podostemum ceratophyllum*, 214  
*Polygala sanguinea*, 99, f. *albiflora*,  
156; *Senega*, 374, var. *latifolia*, 97  
*Polygonum*, 105; *hydropiperoides*,  
105, 138, pl. 885, var. *brevicilia-*  
*tum*, 138, pl. 886, var. *Buchia-*  
*num*, 138, pl. 885, var. **eurono-**  
**torum**, 137, 138, pl. 884; *minus*,  
var. *subcontinuum*, 137; *opelous-*  
*anum*, 105, 138; *pensylvanicum*,  
100, 137, f. **albinum**, 137;  
*viviparum*, 226  
*Polymnia*, 282; *Uvedalia*, var. *den-*  
*sipilis*, 101, 162, 196, 400, var.  
*floridana*, 196, 400, var. *genuina*,  
400  
*Polypogon setosus*, 198  
*Polystichum mohrioides*, var. *sco-*  
*pulorum*, 319  
Pomaceae, 386  
Pond-spice, 142  
*Pontederia*, 364  
*Populus*, 362; § *Turanga*, A neces-  
sary Transfer in, 362; *Denhard-*  
*tiorum*, 362; *euphratica*, subsp.  
*Denhardtiorum*, 362, var. *Den-*  
*hardtiorum*, 362; **ilicifolia**, 362  
*Porsild*, A. E., So-called *Woodsia*  
*alpina* in North America, 145

- Portulaca oleracea*, 139  
*Potamogeton natans*, 41; *Oakesianus*, 41  
*Potentilla*, 144; *millegrana*, 215; *nivea*, 225  
*Preceae*, 385  
*Preciae*, 384  
*Prenanthes alba*, 374  
*Primrose-Willow*, 237  
*Primula*, 259, 290, 379, 384; *laurentiana*, 259  
*Prinos*, 364  
*Proserpinaca amblyogona*, 218; *palustris*, 218, var. *amblyogona*, 218, var. *crebra*, 218; *platycarpa*, 218  
*Prunus*, 144; *Cerasus*, 378; *domestica*, 378; *floribus racemosis*, etc., 301; *Munsoniana*, 215; *serotina*, 301; *virginiana*, 207, 301, f. *deamii*, 207  
*Psoralea floribunda*, 215; *psoraloides*, 207, var. *eglandulosa*, 95, 127, 156, 207, 215; *tenuiflora*, 215, var. *floribunda*, 215  
*Psoralidium floribundum*, 215  
*Pteretis nodulosa*, 124, f. *foliacea*, 124, f. *obtusilobata*, 124, f. *pubescens*, 124; ***pensylvanica*, 123, f. foliacea, 124, f. obtusilobata, 124, f. pubescens, 124;** *Struthiopteris*, var. *pensylvanica*, 124, subvar. *foliacea*, 124, subvar. *obtusilobata*, 124, subvar. *pubescens*, 124  
*Ptilimnium costatum*, 218  
*Putamineae*, 385  
*Pycnanthemum*, 178, 179; *aristatum*, 176, 178, 179; *clinopodioides*, 176, 179, 180, pl. 907; *hysopifolium*, 176-178, 180, pl. 905; *incanum*, 100, var. *Loomisii*, 100, var. ***puberulum*, 180; monotrichum, 176-178, 180, pl. 903;** *puberulum*, 100, 180; *pycnanthemoides*, 176-178, var. *viridifolium*, 177, 180, pl. 904; *setosum*, 177, 178, 180, pl. 905; *Tullia*, 176, 177; ***umbratile*, 179, pl. 906;** *viridifolium*, 177  
*Pyrethrum*, 389  
*Pyrus*, 144, 378; subg. *Aronia*, 103; *angustifolia*, 215  
*Quebec*, *Chrysanthemum uliginosum* adventive in, 389; *Sporobolus asper* in, 272  
*Quercus*, 298, 374, 379; *alba*, 298, 367, *virginiana*, 298; *borealis*, var. *maxima*, 365; *carolinensis*, *virentibus venis*, etc., 298; *castaneae foliis*, etc., 297, 365; *Coccifera*, 297; *discolor*, 366; *esculi divisura*, etc., 298, 299, 301; *falcata*, 366; *folio non serrato*, etc., 297; *foliis obverse ovatis*, etc., 365; *foliis ovatis*, etc., 297; *foliis superne latioribus*, 298; *foliorum sinubus obtusis: angulis acutis*, etc., 298; *foliorum sinubus obtusis: angulis lanceolatis*, etc., 298, 301; *heterophylla*, 366; *ilicifolia*, 366; *marilandica folio trifido*, etc., 298; *Michauxii*, 365; *montana*, 365, 366; *nigra*, 297, 298, 366, 367,  $\beta$ , 298; *palustris*, 366; *Phellos*, 96, 297, f. *intonsa*, 96, 131; *Prinus*, 297, 298, 364, 365, 367, *monticola*, 365, *palustris*, 365; *Robur*, 298; *rubra*, 297, 298, 364-367,  $\beta$ , 298, var.  $\beta$ , 298, seu *Hispanica*, etc., 301; *stellata*, 367; *triloba*, 366; *velutina*, 366; *virginiana venis rubris*, etc., 298  
*Ranunculus*, 284, 290; *acris*, 390  
*Red Bay*, 149; *Elm*, 204; *Oak*, 297, 301, 364, 366  
*Rediscovery of Paronychia argyrocoma*, var. *albimontana* at Newburyport, Massachusetts, 90  
*Reproduction in Carex tribuloides and C. projecta*, Vegetative, 39  
*Reseda*, 207; *alba*, 214  
*(Review)*, Bingham's *Flora of Oakland County, Michigan*, 260; *Handy Guide to Aquatic and Marsh Vegetation*, 395; *Marine Algae of the Monterey Peninsula* 63  
*Rhamnus alnifolia*, 45  
*Rhaphis*, 108  
*Rhexia*, 364, 385; *mariana*, var. *leiosperma*, 218; *virginica*, 161, var. *septemnervia*, 161  
*Rhododendron canescens*, 168  
*Rhoeadeae*, 385  
*Rhus*, 144  
*Rhynchospora*, 103; *corniculata*, 100, 117; *cymosa*, 117; *globularis*, var. *recognita*, 103, 117  
*Ribes*, 144, 363  
*Ridan*, 402  
*River-Maple*, 158  
*Rorippa*, 217; *islandica*, 217, var. *hispida*, 217; *obtusa*, 214; *palustris*, 217  
*Rosa*, 275; *multiflora*, 156

## Rotaceae, 385

Rouleau, Ernest, A necessary Transfer in *Populus* § *Turanga*, 362; *Sporobolus asper* in Quebec, 272; *Viburnum acerifolium*, forma *Collinsii*, 264

Rubacer carolinianum, 217

Rubus, 93, 96, 98, 144, 209; § *Cuneifolii*, 94; § *Tholiformes*, 98; **Akermani**, 152, 153, 155, pls. 890, 891; **cathartium**, 153-155, pls. 892, 893; *connixus*, 152; *exsularis*, 154; *flagellaris*, 154; *sejunctus*, 94, 152; **Sewardianus**, 154-156, pls. 894, 895

Rudbeckia, 398; *alismaefolia*, 401; *Deamii*, 400; *fulgida*, 400, var. *fulgida*, 400, var. *missouriensis*, 401, var. *Sullivantii*, 400, var. *umbrosa*, 400; *grandiflora*, 401, var. *alismaefolia*, 401, var. *grandiflora*, 401; *laciniata*, 401, var. *laciniata*, 401; *missouriensis*, 400, 401; *palustris*, 400; *spathulata*, 400; *speciosa*, 400, var. *Sullivantii*, 400; *Sullivantii*, 400; *triloba*, 401, var. *triloba*, 401; *umbrosa*, 400

Rudbeckias, 400

Ruellia, 302, in the Eastern United States, 1-38, 47-63, 69-90, pls. 839-875; *acaulis*, 10; *angustifolia*, 8, 10, 11; *biflora*, 14; **Brittoniana**, 5, 7-9, 11-13, 87, pl. 839; *caroliniensis*, 2-4, 7, 28, 30-33, 35, 52-57, 59, 61, 69, 75, 84-86, 181, f. *alba*, 54, var. *cheloniiformis*, 25, 70, 74, 80, 84-86, 90, 182, pls. 871, 872, f. *candida*, 182, var. *dentata*, 25, 69, 71, 73, 74, 82, 84-86, 90, 182, pls. 874, 875, var. *membranacea*, 25, 70, 74, 75, 78-81, 84-86, 89, 181, pls. 865, 866, f. *breviberbis*, 70, 78, 89, pl. 867, f. *hypopsila*, 70, 78, 89, 181, pl. 867, f. *laevior*, 70, 79, 80, 89, 181, pl. 868; var. *nanella*, 25, 70, 74, 77, 79, 80, 84, 89, 181, pls. 869, 870, f. *eciliata*, 70, 79, 89, 182, pl. 870, var. *parviflora*, 28, 29, 71, 86, var. *salicina*, 25, 70, 74, 81, 84, 85, 90, pl. 873, var. *semicalva*, 25, 69, 73, 82, 84, 85, 89, 181, pl. 864, f. *detonsa*, 69, 74, var. *typica*, 25, 69, 71, 73, 84-86, 89, pls. 861-863; *ciliosa*, 3, 6, 23, 25, 28, 29, 31-38, 47, 51-54, 56, 58-62, 71-75, 79, 81-83, 85, 88, 181,

pls. 849, 850, var., 32, var. *ambigua*, 16, 28-30, 72, 74, 82, var. **cinerascens**, 48, var. *humilis*, 51, 53, var. *hybrida*, 27, 29, 52, 71, 72, 82, var. *longiflora*, 36, 51, 56-60, var. *parviflora*, 52; *Drummondiana*, 2, 30; *foliis petiolatis*, etc., 302; *foliosa*, 14; *geminiflora*, 9, var. *humilis*, 10; **heteromorpha**, 6, 25, 32-35, 87, pls. 847, 848; *hirsuta*, 51, 59, 62; *humilis*, 2, 3, 7, 28, 31, 33-38, 48, 50-54, 56, 58, 60-62, 72, 77, 80, 82, 85, 181, pl. 854, var. **calvescens**, 25, 51, 52, 60, 63, 89, 181, pl. 860, var. **expansa**, 25, 51, 58, 62, 89, pl. 859, var. *frondosa*, 25, 51, 54, 82, 88, 181, pl. 857, var. *longiflora*, 25, 37, 51, 56, 60, 62, 63, 88, pl. 858, var. *typica*, 25, 51, 54, 88, pls. 854, 855, f. *alba*, 54, f. *grisea*, 51, 54, 88, pl. 866; *hybrida*, 2, 28, 31-34, 36, 71, 72, 77, 86; *longiflora*, 26, 49; *malacosperma*, 8, 9, 13; *Morongii*, 10, 11; *noctiflora*, 3, 7, 25, 49, 50, 57, 62, 63, 88, pls. 852, 853; *nudiflora*, 2; *oblongifolia*, 14, 55; *Parryi*, 2; *parviflora*, 2, 26-29, 31-33, 35, 37, 52-54, 60, 61, 72-75, 80-82, 86, 181; "parviflora", 49; *pedunculata*, 3, 5, 21, 22, 24-28, 30, 31, 82, 85, 87, pl. 843; **pinetorum**, 5, 24-27, 87, pl. 844; **Purshiana**, 5, 25, 27, 29-32, 75, 85, 87, 181, pls. 845, 846, f. **clauetroflora**, 7, 29, 87, 181, pl. 846; *spectabilis*, 8, 10-12; *strepens*, 2, 3, 5, 13, 15, 19-22, 25-30, 32, 36, 52, 55, 58, 60, 61, 71-83, 85, 87, pl. 841, var., 52, *capitulis comosis*, 19, 20, 71, 89, 302, pl. 863, f. *cleistantha*, 6, 17, 20, 21, 87, pl. 842, var. *cleistantha*, 17, 20, 29, *micrantha*, 17; *succulenta*, 3, 6, 25, 48, 49, 88, pl. 851; *tubiflora*, 49, 50, 88; *Tweediana*, 8, 9-13, 87, pl. 840; *Tweedyi*, 11; *vincaeflora*, 14

Rumex, 134; *altissimus*, 135-137; *aquatica*, 134, *calycis*, etc., 134; *Britannica*, 134-136, not a Virginian, So-called, 133, pl. 883; *Claytonii*, 135-137; *floribus hermaphroditis*, etc., 134; *Hydro-lapathum*, 133, 136, var. *americanus*, 137; *obtusifolius*, 134-136, pl. 883; *orbicularis*, 135; *orbiculatus*, 134-137; *verticillatus*, 134-137

- Rush, Scouring, 206  
 Rushes, 206, 207  
 Rynchospora, 291
- Sabatia campestris, 209  
 Sagittaria, 385; graminea, 343; subulata, 343  
 Salices, 281  
 Salix, 259, 320; balsamifera, 144; Bebbiana, 144; chlorolepis, 320; foliis subintegerrimis, etc., 295; glaucophylloides, 259; hebecarpa, 320; herbacea, 224; longipes, var. Wardi, 213; missouriensis, 214; pyrifolia, 144; rostrata, 144  
 Sambucus pubens, 144; racemosa, 144  
 Sanguinaria, 385  
 Sanguisorba canadensis, 45  
 Sanicula canadensis, 374; Smallii, 97, 162, 163  
 Sarmentaceae, 385  
 Sarothra, 282  
 Sarracenia, 385; flava, 103, 360  
 Sartwellia Flaveriae, 331  
 Saxifraga cernua, 226; cespitosa, 225  
 Scabridae, 386  
 Scheuchzeria americana, 207; palustris, 207, 218  
 Schoenus, 385  
 Schwalbea, 364  
 Scirpus, 385; americanus, 148; atrovirens, var. georgianus, f. viviparus, 390; capitatus, 301; caribaeus, 300; cernuus, 148; cespitosus, var. callosus, 208; culmo nudo setaceo, etc., 300; cyperinus, 124; divaricatus, 101, 116; Eriophorum, 124, 213, f. praelongus, 124; geniculatus, 274, 300; Hallii, 208, 213; heterochaetus, 213; lineatus, 213; lupulinus, 198; polyphyllus, 116; retrofractus, 111-113; **rubricosus, 124**, 213, f. **praelongus, 124**; thyrsiflorus, 124  
 Scitamineae, 385  
 Scleria pauciflora, 96, 117  
 Scotch Broom, 335; Pine, 335  
 Scouring Rush, 206  
 Scutellaria, 201; ambigua, 172, 173, 175; caerulea virginiana, etc., 202; elliptica, 174, 200-202, var. **hirsuta, 201**; epilobiifolia, 172; foliis integerrimis, 202; foliis lanceolatis, 202; foliis ovatis, etc., 201; foliis sessilibus, etc., 202; galericulata, 172; gracilis, 174; hirsuta, 201; hyssopifolia, 202, 203; incana, 199, 200; integrifolia, 174, 201-203, *f.* hyssopifolia, 203; Leonardi, 172; nemorosa, 201; nervosa, 172-174, 404, var. **ambigua, 175**, var. **calvifolia, 174**, var. **typica, 174**, 175; ovalifolia, 200, 201, subsp. hirsuta, 202, var. hirsuta, 202, subsp. mollis, 200, 201; ovata, subsp. rugosa, 144, var. **rugosa, 144**; parviflora, 174; parvula, 172, 173, 272, var. ambigua, 172, 175, var. **Leonardi, 172**; pilosa, 200, 201, var. hirsuta, 201, var. ovalifolia, 201; pubescens, 200; rugosa, 144; teucrifolia, 174, 201, 202; teuceriifolia, etc., 202; virginiana, etc., 201  
 Sea-side Alder, 341  
 Seaweeds, 63, 64  
 Second Station for Juncus Griscomi, 126  
 Sedges, 206  
 Sedum, 385  
 Selinocarpus lanceolatus, 331  
 Senecio § Aurei, 302; congestus, 256, 257, pls. 959, 960, var. **laceratus, 256**, 257, var. **palustris, 256**, 257, pl. 959, var. **tonsus, 256**, 257, pl. 960; palustris, 256, 257, var. congestus, 257, *γ*. laceratus, 256; Pseudo-Arnica, 257, f. **Rollandii, 257**, var. Rollandii, 257; Rollandii, 257; Smallii, forma tristis, 302, f. **tristis, 302**; tubicaulis, 256, 257  
 Senticosae, 386  
 Sepiariae, 386  
 Serapis, 385  
 Sertularia, 281  
 Setaria Faberii, 109  
 Seward Forest and adjacent areas of Southeastern Virginia, Botanical Specialties of the, 93-142, 149-182, 191-204, pls. 876-911  
 Seymour, Frank C., Leptoloma in New England, 263  
 Shagbark hickory, 47  
 Sieglingia decumbens, 267  
 Silene virginiana, 142; virginica, 142  
 Siliquosae, 384, 386  
 Silphium integrifolium, 401, var. **integrifolium, 401**; trifoliatum, 401, var. **trifoliatum, 401**  
 Silver-king Artemisia, 255  
 Silver-leaved Alder, 340  
 Sium, 386  
 Skunk cabbage, 363



- Slippery Elm, 132, 204  
*Smilax Bona-nox*, var. *exauriculata*, 131  
*Smilacina trifolia*, 213  
 So-called *Rumex Britannica* not a Virginian, 133-137, pl. 883;  
*Woodsia alpina* in North America, 145  
*Solidago*, 102, 249; *canadensis*, 390; *chlorolepis*, 320; *missouriensis*, 249; *neglecta*, 249; *rugosa*, 390, var. *celtidifolia*, 103, 195; *salicina*, 102; *sempervirens*, 249; *unilugulata*, 249  
 Some heretofore unnoticed Plants of the South Carolina Coastal Plain, 142; Inconvenient Upheavals of Familiar Names and Author-Citations, 197-204; North American *Corylaceae* (*Betula-ceae*). I. Notes on *Betula* in Eastern North America, 303-329, pls. 963-975; II. Eastern North American Representatives of *Alnus incana*, 333-361, pls. 976-989  
*Sonchus uliginosus*, 210  
*Sophora biflora*, 381  
*Sorbus alaskana*, 220; **Andersoni**, 220, a new Name for an Alaskan Mountain-Ash, 220  
*Sorghastrum*, 108  
*Sorghum*, 108  
 South Carolina Coastal Plain, Some heretofore unnoticed Plants of the, 142  
 Southeastern Virginia, Botanical Specialties of the Seward Forest and adjacent Areas of, 93-142, 149-182, 191-204, pls. 876-911  
*Sparganium*, 343; *angustifolium*, 210, 343; *minimum*, 343; *natans*, 343  
 Spathaceae, 385  
 Specialties of the Seward Forest and adjacent Areas of Southeastern Virginia, Botanical, 93-142, 149-182, 191-204, pls. 876-911  
 Species, *Perezia aletes* an Argentinian, 47; of *Anulocaulis* from southwestern Texas and adjacent New Mexico, New, 329  
*Speckled Alder*, 349, 350  
*Sphaeranthus*, 386  
*Sphenopholis nitida*, 198; *pallens*, 198  
*Spilanthes americana*, 209  
*Spiranthes latifolia*, 213; *lucida*, 213  
*Spergularia*, 214; *marina*, 214  
*Sporobolus*, 272; *asper*, 272, in Quebec, 272; *canovirens*, 211; *clandestinus*, 198, 211; *Nealleyi*, 331  
 Staten Island, New York, *Jussiaea uruguayensis* in, 237  
*Statice*, 320  
*Stellaria calycantha*, var. *floribunda*, 44, var. *isophylla*, 44; *crassifolia*, 214  
*Stellatae*, 384, 386  
*Stenanthium gramineum*, 206  
*Stipa avenacea*, 211  
*Strophostyles helvola*, 216, var. *missouriensis*, 216; *missouriensis*, 216; *peduncularis*, 216; *umbellata*, 209, 216  
*Struthiopteris germanica* f. *obtusilobata*, 124, var. *pensylvanica*, 123, f. *pubescens*, 124; *nodulosa*, 123; *pensylvanica*, 123, 124, f. *pubescens*, 124; *pubescens*, 124; *Struthiopteris*, var. *pensylvanica*, 124  
*Stylosanthes biflora*, var. *hispidissima*, 216; *riparia*, 216  
 Succulentae, 385  
 Sugar-Maple, 156, 158, 159; Black, 156; Northern, 158; Southern, 156, 159  
 Sugartree, 156  
 Svenson, H. K., On the Descriptive Method of Linnaeus, 273-302, 363-388, pls. 990, 991  
 Swamp Alder, 103, 333, 334, 337; Chestnut Oak, 365  
 Swarthmore, Pennsylvania, *Convolvulus Wallichianus* at, 332  
 Sweet Pignut, 47, in New England, Hairy Variety of, 46  
 Syngenesia, 275  
 Taenia, 281  
*Talinum calycinum*, 209  
*Tamala Borbonia*, 149; *palustris*, 149; *pubescens*, 149  
*Taraxacum*, 242, 244; *ceratophorum*, 243; *dumetorum*, 243; *laurentianum*, 243; *Longii*, 243; *officinale*, 243; *palustre*, 243; *phymatocarpum*, 243  
*Taxodium*, 207  
*Tephrosia holosericea*, 215; *virginiana*, 216, var. *glabra*, 102, 156, var. *holosericea*, 215, 216  
*Tetranthera geniculata*, 140  
 Texas and adjacent New Mexico, New Species of *Anulocaulis* from Southwestern, 329

- Thaspium pinnatifidum*, 218  
*Thea sinensis*, 143  
*Thermopsis mollis*, 91, in eastern Massachusetts, 91  
*Thuja gigantea*, 317  
*Tilia*, 281; *floridana*, 209  
*Tofieldia*, 206  
*Tovaria*, 289; *stigmata peltata*, etc., 289  
 Toxicity of *Notholaena sinuata* and *N. sinuata*, var. *cochisensis*, comparison of, 393  
*Tragia cordata*, 216; *macrocarpa*, 216, 217  
 Transfer in *Populus* § *Turanga*, A necessary, 362  
 Transfers, Minor Forms and, 144; in and Animadversions on *Artemisia*, 247-256  
*Tremella*, 386  
*Triadenum petiolatum*, 217  
*Trichachne*, 108  
*Trichophyllum*, 373  
*Trichostema*, 364  
*Tricoccae*, 384, 386  
*Trifolium*, 275; *resupinatum*, 215  
*Trihalatae*, 385  
*Trillium erectum*, 369; *grandiflorum*, 369  
*Tripetaloidae*, 385  
*Tripsacum*, 99; *dactyloides*, var. *occidentale*, 99, 109  
*Triticum*, 280  
*Trollius*, 385  
*Tsuga*, 207  
*Tulipa*, 385  
*Tulips*, 379  
*Tullia*, 178  
*Turanga ilicifolia*, 362  
*Turkey-buzzards*, 98  
  
*Ulmus americana*, 132, 203, 204, 272, The Indigenous Variations of, 132, f. **alba**, 133,  $\beta$ . *alba*, 133, var. *alba*, 133,  $\alpha$ . *glabra*, 133, f. **intercedens**, 133, f. **laevior**, 133, f. **pendula**, 133,  $\gamma$ . *pendula*, 133, var. *pendula*, 133,  $\beta$ . *scabra*, 133; *fulva*, 132, 204; *mollifolia*, 203; *rubra*, 132, 203, 204; *serotina*, 214  
*Umbellatae*, 384, 386  
*Umbelliferae*, 283, 386  
*Uniola distichophylla*, 148  
 United States, Notes on Compositae of the Northeastern, I. Inuleae, 182; II. Heliantheae and Helenieae, 396; *Ruellia* in the Eastern, 1-38, 47-63, 69-90, pls. 839-875  
 Untenable Generic Name in Acanthaceae, An, 261  
*Utricularia*, 104; *inflata*, 235, var. *minor*, 235, in Canada, 235  
*Uvedalia*, 196  
*Uvularia floridana*, 142; *perfoliata*, 374  
  
*Vaccinium arboreum*, 260; *tenellum*, 171, 209  
 Varieties and Forms of *Juncus canadensis*, Some, 127-131, pls. 881, 882  
 Variety of Sweet Pignut in New England, Hairy, 46  
 Vegetation (Review), Handy Guide to Aquatic and Marsh, 395  
 Vegetative Reproduction in *Carex tribuloides* and *C. projecta*, 39  
*Veratrum luteum*, 374  
*Verbena simplex*, 272  
*Verbesina*, 398, 401, 402; *alba*, 196, 197, 398; *alata*, 401; *alternifolia*, 402; *prostrata*, 196, 197, 398  
*Verticillatae*, 386  
*Vetiveria*, 108  
*Viburnum acerifolium*, forma *Collinsii*, 264, f. **Collinsii**, 264; *dentatum*, 367  
*Vicia tetrasperma*, 143  
*Viola Stoneana*, 160  
 Virginia, Botanical Specialties of the Seward Forest and adjacent Areas of Southeastern, 93-142, 149-182, 191-204, pls. 876-911  
*Vitis cinerea*, 101, 160  
*Vulpia*, 107, 108; **Elliottea**, 106; *octoflora*, 210, var. **glauca**, 107, var. **tenella**, 107, 210; *sciurea*, 106  
  
 Wahl, Herbert A., Notes on Plants of central Pennsylvania, 41  
 Water Dock, 133  
 Waterfall, U. T., New Species of *Anulocaulis* from southwestern Texas and adjacent New Mexico, 329  
 Weatherby, C. A., Bingham's Flora of Oakland County, Michigan (Review), 260; *Linum catharticum* in New Brunswick, 68; *Utricularia inflata* var. *minor* in Canada, 235; Vegetative Reproduction in *Carex tribuloides* and *C. projecta*, 39  
 Wheldon, Roy M., Marine Algae of the Monterey Peninsula (Review), 63

- White Alder, 337, 349; Birch, 303, 405  
Willow-Oak, 96  
Woodsia alpina, 145-148, in North America, So-called, 145; **Belli**, 147, 148; glabella, 147, 225,  $\beta$ . Belli, 147; hyperborea, 145-147; ilvensis, 145-147; laetevirens, var., 147  
Woody Plants of Maine (Notice), 143  
Xanthium, 402, 403; canadense, 403; chinense, 402; echinatum, 402, 403; italicum, 402; macrocarpum, var. glabratum, 403; pensylvanicum, 402; spinosum, 402; strumarium, 402, 403, var. canadense, 403, var. **glabratum**, 403  
Xanthorhiza simplicissima, 140  
Xyris, 364  
Zamia, 386  
Zea, 383  
Zigadenus, 206  
Zizia Bebbii, 162; trifoliata, 97, 162





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